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A CONFERENCE FOR THE ADMINISTRATION OF INDUSTRIAL EDUCATION. FINAL REPORT.

BY- MORRIS, CLYDE M.
NORTH DAKOTA UNIV., GRAND FORKS, COLL. OF EDUC.

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THE 5-DAY CONFERENCE-WORKSHOP, HELD AT THE UNIVERSITY OF NORTH DAKOTA IN JULY 1966, HAD AS OBJECTIVES TO--(1) BETTER ACQUAINT SCHOOL ADMINISTRATORS WITH THE PHILOSOPHY AND OBJECTIVES OF VOCATIONAL EDUCATION, (2) PRESENT NATIONAL AND STATE TRENDS IN VOCATIONAL EDUCATION, (3) REVIEW FEDERAL LEGISLATION, (4) CONSIDER SPECIFIC EXAMPLES OF WHAT OTHER STATES AND SCHOOL DISTRICTS WERE DOING IN THIS AREA, (5) ORIENT THE ADMINISTRATORS TO THE SERVICES OFFERED BY THE NORTH DAKOTA STATE VOCATIONAL STAFF AND OTHER AGENCIES, AND (6) STIMULATE THE ADMINISTRATORS TO ASSESS THE TRAINING NEEDS OF THEIR STUDENTS AND COMMUNITIES. INCLUDED IS "THE COLLEGE OF EDUCATION RECORD" WHICH GIVES MAJOR PORTIONS OF THE ADDRESSES PRESENTED BY LOCAL, REGIONAL, AND NATIONAL EDUCATORS--(1) "NEW HORIZONS IN VOCATIONAL EDUCATION," BY T. D. MCCORMICK, (2) "VOCATIONAL-TECHNICAL TRAINING IN SOUTH DAKOTA," BY E. B. OLESON, (3) "MINNESOTA'S AREA VOCATIONAL-TECHNICAL SCHOOLS," BY O. D. BAKKEN, (4) "THE HISTORY AND DEVELOPMENT OF VOCATIONAL EDUCATION," BY H. C. GULBRANDSON, (5) "THE AREA VOCATIONAL SCHOOL IN MINNESOTA," BY O. R. BERGOS, (6) "GUIDANCE SERVICES IN VOCATIONAL EDUCATION," BY C. MATZ, (7) "PROBLEMS OF STAFFING FOR VOCATIONAL EDUCATION," BY H. E. CRAMER, AND (8) "STEAK OR CORN MEAL--WHICH WILL YOU ORDER," BY S. D. OWEN. (FS)

6-8505
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FINAL REPORT

Contract No. OE - 3-6-068505-1926

A CONFERENCE FOR THE ADMINISTRATION OF INDUSTRIAL EDUCATION

June 1967

U. S. DEPARTMENT OF

HEALTH, EDUCATION AND WELFARE

Office of Education
Bureau of Research

Project Title: A Conference for the Administration of Industrial Education

Grantee: The College of Education, University of North Dakota
Grand Forks, North Dakota 58201

This project was carried out under the terms of a Small Grant Proposal initiated by Dr. Clyde M. Morris, Director of Administration, University of North Dakota, and Dr. Kent G. Alm, Director of Teacher Education and Director of Summer Sessions, University of North Dakota.

Duration of the project: beginning June 20, 1966, ending March 1, 1967. The federal funds granted were $1500.

Report of

Fifteenth Annual Workshop

for

School Administrators

July 18-22, 1966

University of North Dakota

Grand Forks, North Dakota

Sponsored by College of Education,

General Extension Division

Graduate School

A CONFERENCE FOR THE ADMINISTRATION OF INDUSTRIAL EDUCATION. Final Report.

Contract No. OE-3-6-068505-1926

Clyde M. Morris

June, 1967

The activities reported herein were performed pursuant to a contract with the Office of Education, U. S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

University of North Dakota
Grand Forks, North Dakota

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INTRODUCTION

This is a final report of activities conducted by the College of Education, University of North Dakota, in connection with a Conference for the Administration of Industrial Education. This conference was the outgrowth of a project carried out under the terms of a Small Grant Proposal, initiated by Dr. Clyde M. Morris, Director of Administration, and Dr. Kent G. Alm, Director of Teacher Education and Director of Summer Sessions, University of North Dakota, Grand Forks, North Dakota.

Dr. Morris served as organizer and director for the project which called for a conference, later designated a workshop, to begin on July 18, 1966 and end July 22, 1966. The total operative period for the project was June 20, 1966 through March 1, 1967. Of the total budget for the project ($23,315), Federal funds requested and granted were $1500.

HISTORY OF THE PROJECT

This project, for which the office of the United States Department of Education granted funds under the provision of section 4 (C) of the Vocational Act of 1963, is part of the legislative history of vocational education in the United States since 1915. The project was initiated with full cognizance on the part of the activating officials of the primary purpose of vocational education.

Currently, North Dakota suffers critical problems brought about by the coincidence of an economy based chiefly upon agricultural production with little in-state processing and, in the past two decades, an accelerated rate of farm mechanization and farm consolidation. The result is a sharp decline of the demand for agricultural labor and the fact that North Dakota is losing by migration many of its young people who have only agricultural skills.

A concomitant difficulty is the diminishing demand for semi-skilled or unskilled labor in the state's few urban centers. Too many young North Dakotans have no technical skills. The result is a deterrent to the industrial expansion needed to take up the labor surplus.

Accordingly, educators, social service agents and business executives resolved to employ the facilities of the University of North Dakota and related organizations in an effort to explain the problem and to enlist the aid of local school administrators in the expansion of vocational education within the state.

Because rural school districts usually have no vocational education specialists, the initiators of this project felt it of value that local school administrators should become acquainted with the various phases of a broad vocational education program.

OBJECTIVES

Under the general heading of the objective of increasing administrative interest in, understanding of and concern for vocational education in the respective communities, the following specific objectives were selected for this Workshop:

1. To better acquaint the school administrators with the philosophy and objectives of vocational education.
2. To present the national and state trends in vocational education and what these trends mean to the local school districts.
3. To review federal legislation and study its meaning and application to the local districts.
4. To consider specific examples of what other states and school districts are doing in this area.
5. To orient the administrators to the services offered by the North Dakota State Vocational Staff and by other agencies concerned with vocational education.
6. To consider what the vocational schools and adult education have to offer the local districts and communities.
7. To stimulate the administrators to assess the training needs of their students and communities; and to determine what staff, equipment, and facilities are needed to implement new and improved programs.
8. To analyze the effect of this conference in creating beneficial changes without the local school districts.

PROCEDURES

A conference-workshop was held in the Lecture Bowl, University of North Dakota, from July 18 through July 26, 1966. Dr. Clyde M. Morris, Director of Administration, University of North Dakota, directed this conference. Several local, regional and national educators presented reports on various phases of vocational education. Many of the participants contributed evaluations, and questions concerning the presentations.

Pertinent materials were issued in packets to all of the participants; other materials found in the university's central library and in the library in the Center for Research in Vocational and Technical Education were issued during the five day workshop. Throughout the conference the emphasis of the initiators and of the agenda was placed upon application of information to local school districts. In the terminal days of the conference, participants were asked to work in small groups determined by size and location of districts to devise possible vocational education plans for their areas.

SCHEDULE OF WORKSHOP EVENTS

Monday, July 18, opened the conference with registration, a welcoming address from George W. Starcher, President, University of North Dakota, and the keynote speech, "New Horizons in Vocational Education", by Dr. Thaine McCormick, Regional Director, Vocational Technical Branch, U.S. Office of Education, Kansas City, Missouri. Speakers and session leaders from outside North Dakota included Mr. Robert Van Tries, Assistant Director, Vocational Education, State of Minnesota, St. Paul, Minnesota; Mr. E. B. Oleson, Director, Vocational Education, State of South Dakota, Pierre, South Dakota; Mr. Oscar Bergos, Director, Area Vocational School, Moorhead, Minnesota; and Dr. George S. Counts, Professor of Education, Southern Illinois University, Carbondale, Illinois.

North Dakota participants, educators and other persons concerned with vocational programs, were the following: Dr. Kent G. Alm, Associate Professor of Education & Director of Summer Session, University of North Dakota, Grand Forks; Orlin D. Bakken, Director of Placement, State School of Science, Wahpeton; Merril Berg, Dean, Lake Region Junior College, Devils Lake; Dr. H. Edwin Cramer, Superintendent, Grand Forks Public Schools, Grand Forks; Dr. M. L. Cushman, Dean, College of Education, University of North Dakota, Grand Forks; Shubel Owen, Assistant State Director of Agricultural Education, Fargo; Dr. A. L. Gray, Professor of Psychology and Education, University of North Dakota, Grand Forks;

Virgil Gehring, State Director of Office Education, Department of Public Instruction, Bismarck; Dr. Harold C. Gulbrandson, Assistant Superintendent, Fargo Public Schools, Fargo; Ben G. Gustafson, Dean, General Extension Division, University of North Dakota, Grand Forks; Oswald M. Hager, State Director of Distributive Education, Grand Forks; Richard K. Klein, Assistant Superintendent in Charge of Instruction, Department of Public Instruction, Bismarck; Majore Lovering, State Director of Home Economics Education, Fargo; Clifton H. Matz, Assistant Research Professor of Education, University of North Dakota, Grand Forks; Robert P. Miller, Superintendent of Schools, Bismarck; Dr. C. M. Morris, Professor of Education, University of North Dakota, Grand Forks; G. H. Mowers, State Director of Trade and Industrial Education, Wahpeton; M. F. Peterson, Superintendent of Public Instruction, Bismarck; and Alvin E. Rudisill, Associate Professor of Industrial Arts and Chairman of Department, University of North Dakota, Grand Forks.

On Thursday morning, July 21, the conference heard a panel discussion, "Implementation of Vocational Education and Its Problems," with the following speakers: Mr. Richard K. Klein, Dr. H. Edwin Cramer, and Mr. Clifton H. Matz.

A copy of the printed program for the Workshop appears in Appendix I.

Major portions of the addresses delivered at the Workshop appear in portions of The College of Education Record, the University of North Dakota, shown in Appendix II.

A. REACTIONS AND EVALUATIONS

(Reactions and Reports from Administrators and Principals While Earning Professional Credit in Attendance at the Fifteenth Annual Workshop for School Administrators)

Twenty-four of the administrators and/or principals attending the Workshop were enrolled for credit toward completion of the University of North Dakota's College of Education course, Education 527, and were requested by Dr. Morris to submit in written form their reactions or proposals resulting from the presentations and discussions of the Workshop. Following are brief descriptions of the resulting papers (see Appendix III):

Ashenbrenner, Evelyn:

A review of programs in Vocational Education financed by Federal Funds. The review includes a comprehensive description of the major programs and a brief history of recent developments in public funding of vocational education.

Barrick, J. Bruce:

A proposal for the expansion of the program at the Winnipeg, Manitoba, Technical-Vocational High School, describing the existing program and recommending the addition of Distributive Education and Vocational Home Economics, to conform to the essentially urban employment needs of the Winnipeg area.

Carlson, Carl W.:

A plan for implementing a vocational education program in the Minot, North Dakota, schools, emphasizing the need for considering local, area and regional employment fields, and the importance of a salary schedule adequate to attract high-caliber craftsmen as shop and classroom faculty.

Eisinger, Marvin:

A proposed vocational education program for the Rolette, North Dakota, Public School, including Industrial Arts in addition to the existing program of Vocational Agriculture, Home Economics and Office of Education, and recommending State action to establish area public schools.

Erdelt, Virgil R.:

A report of the vocational education needs and problems in the Regent, North Dakota, Public School, with its small enrollment (120) and financial resources, and a recommendation for a state system of area vocational schools.

Galloway, William A. :

Suggested improvements for vocational education in the Walsh County Agricultural School, Park River, North Dakota, with a report of the school's potential for becoming a County Vocational School, and a recommendation for educating the taxpayers on the subject of area vocational training needs.

Gross, Benedict:

A paper by the Education Principal, Schenck Job Corps Center, Pisgah Forest, North Carolina, describing the initial stress on vocational education (as of 1966) at the Center, expressing appreciation of the Workshop, and outlining the reports and suggestions which he planned to present to his staff and his supervisor as a result of ideas presented during the workshop.

Hendrickson, A. C.:

A report of current programs and facilities in vocational education in the Rugby, North Dakota, school system, mentioning lack of facilities and funds as the limiting factors, and expressing enthusiasm for a state-supported, tuition-free system of area vocational schools.

Gussner, William S.:

A description of vocational education courses in the Jamestown, North Dakota, Public Schools, reporting: certain features unusual in North Dakota such as students' opportunities (as many as six in a school year) to work for a week at a time in a shop or business establishment; close cooperation between the schools and local employees; a high degree of job placement of graduates; and a high average number of graduates enrolling for post-high school training in the State School of Science at Wahpeton.

Hovde, Arthur M.:

An account of deficiencies in the vocational education program in the Minot, North Dakota, area and a proposal for such a program in Memorial Junior High School, Minot Air Force Base, as a preventive to secondary-school dropout; recommending a strong program in guidance and counseling, greater flexibility in curriculum, and accelerated efforts to secure more generous local tax support.

Johnson, C. P.:

This paper discusses the possibilities of setting up a vocational education program in the small high school at Hatton, North Dakota; indicates the improbability of funding such a program; points out that about 95% of the school's 1965 graduating class had, by 1966, enrolled in some sort of post-high school training; and that the size of the school precludes any expansion of vocational programs beyond the possible addition of a few new staff members.

Laabs, Willard B.:

A paper briefly describing the vocational education program of the Minot, North Dakota, High School, proposing an area vocational school, and suggesting as an alternative the improvement of the school's present vocational curriculum.

McLaughlin, Henry D.:

The author, an elementary school principal in Minot, North Dakota, disqualifies himself for giving advice on vocational education programs, listing as grounds his lack of experience; he accredits the lag in vocational education in North Dakota to general lack of knowledge of the state's needs and programs in this field, to lack of funds and diminishing population.

Maslowski, Carl:

This paper describes the vocational program limitations of Wilton, North Dakota, High School (enrollment 110) and proposes for the school an expansion of the Office Education program; a similar expansion of the Industrial Arts Courses and establishment of a Home Economics Department, all predicated upon increased local support, State and Federal funds, and the possibility of sharing services with neighboring schools or of the creation of an area vocational school.

Miller, Ervin J.:

This paper, written by a school administrator in Lehr, North Dakota, stresses the procedures useful to small North Dakota high schools in developing vocational education programs aided by State and Federal funds, and points out the value (to school administrators, school boards and the general public) of keeping constantly informed of the extent and details of State and Federal legislation in this field.

Nyhus, Lester R.:

This report describes the Devils Lake, North Dakota, High School (enrollment 600) as offering a pre-vocational rather than vocational program and mentions that some of these courses can be followed up at the Lake Region Junior College, also in Devils Lake. The author refers to the Workshop as highly informative, especially on the details of the current sixty-six Federal Aid programs, and recommends for the Devils Lake area a close scrutiny of possible programs for expansion of vocational education programs and a concentration upon such programs at the high school level.

Olson, Bertrum:

A fairly detailed report of present vocational education courses and a plan for possible future programs in the Gackle, North Dakota, High School (enrollment under 200). The plan envisions possible sharing of staff and facilities with a neighboring school. The author cites small enrollments, staff problems, and community prejudices as obstacles to the plan, but does not state whether the community prejudices originate in ethnic conflicts, in pure chauvinism, or other conditions.

Shanks, Gladys:

This report is a brief history of Vocational Education legislation in the United States, with descriptions of standard high-school level courses and of possible areas of expansion; a general outline of steps for implementation of vocational education programs, and recommendations for support for continued national research. Other recommendations are for involvement of more professional group leaders in the American Council on Education, area conferences, and occupational guidance beginning in the intermediate grades.

Simonson, C. L.:

This paper describes the present vocational education programs in Minot, North Dakota, public schools; recommends addition of some industrial arts courses oriented to the non-college-going, vocation-bound, post-secondary student; suggests that the South Dakota planning for area schools, as described in the Workshop schedule, could serve as a guide for North Dakota, and expresses the hope that an area vocational school can be established in Minot, with perhaps one in Bismarck and one in Dickinson.

Suby, Constance:

A report including a record of Federal money expended for vocational education programs in 1966; a recommendation for an area vocational-technical school in the Crookston, Minnesota, region, similar to the Moorhead area school described at the Workshop; a strong endorsement of the Workshop conference and detailed suggestions for a similar workshop during the summer of 1967.

Swenson, Kenneth H.:

This concise paper recommends that the public schools of Thief River Falls, Minnesota, institute a "vocational adjustment" program, which provides for a vocational adjustment counselor to remove low-ability senior high school students from the regular program during one-third to one-half of each school day, place them in suitable part-time jobs and enroll them in nonacademic classes in their spare school time. Further recommendations are for expansion of the present vocational courses to motivate and prepare the student for an Area Vocational-Technical School, in line with similar programs now operating in several Minnesota schools, as described by a Minnesota administrator at the Workshop.

Thompson, L. H.:

This paper deals in considerable depth with the problem of expanding vocational education programs in schools of approximately 200 enrollment, grades 9-12; presents an argument for specialized schools on the basis of shared staff and facilities; and gives a very detailed, hypothetical outline of curricula, using as examples the Goodrich, Mercer, McClusky, and Hurdsfield Schools, North Dakota, offering a total of 46 different courses on the share basis. The author suggests legislation to permit combined school districts to share with State and Federal aid the cost of establishing area vocational schools.

Vondersmith, Henrietta:

In this report, the Larimore, North Dakota, High School vocational offerings are described and assessed; the principal limitations are listed as facilities, including space, tools, some obsolescence in course materials, shortage of vocational guidance, and lack of up-to-date surveys of local needs. The writer commends the Workshop and suggests that the Larimore area needs wider dissemination of facts on such matters as Federal and State programs to aid Vocational Education. She recommends that the facts brought out at the Workshop be conveyed directly to a special PTA meeting.

Voorhees, Robert L.:

This writer singles out some procedures for use of small North Dakota high schools for taking advantage of new State and Federal vocational education legislation, and emphasizes the need for up-to-date information on such legislation among local school boards and local public. He recommends that school administrators be obliged to attend all State Department of Vocational Education workshops, as well as those of county and local organizations; that there be regular surveys of community needs and existing facilities and regular administrative visits to existing programs; and that effort be made toward forming cooperative movements for economy and expanded programs.

PERSONNEL AND ITINERARY OF FOLLOW-UP TOURS

In the follow-up procedure, designed in part to stimulate interest in the 1967 Summer Workshop for Administrators, a tour of area vocational schools (Wahpeton, N.D., Alexandria and Staples, Minn.) was organized on a two-day schedule.

Participating in this tour were sixteen school administrators, representing every geographic section of North Dakota; three members of the North Dakota State Legislature; two members of the State Department of Education; four graduate students in Educational Administration (University of North Dakota); two faculty members of the University; and two consultants in vocational education.

During actual travel time, a loudspeaker system was employed for half-hour lecture sessions on the philosophy of vocational education; there were several of these lectures during the tour.

Concluding the first day of visiting vocational schools was a dinner meeting, attended by all of the participants. This meeting provided for a generous sharing of ideas among the participants and a hearing for numerous suggestions as to what actions might be to helpful to the individuals and the group.

A survey of vocational programs (extant and planned) was taken and tabulated. Results appear in Table 1.

Written evaluations from the participating administrators are reported in general terms, as follows:

> Only one of the participants indicated no definite plan for expansion of his school's vocational education program for next year, suggesting that financial limitations were responsible.

The remaining thirteen administrators filing evaluations described definite plans for expansion or additions in vocational education, ranging from additions in space or equipment to the establishment of as many as three entirely new courses. Two of the administrators expressed hopes for addition of a specialist in vocational guidance and counseling.

Eight administrators emphasized what they felt to be a great need for public and legislative stimulation and wider dissemination of vocational education problems.

Fifty per cent of the group spoke of their enthusiasm for the idea of the area vocational school as an answer to the State's need for expanded services in this field.

The signed evaluation reports unanimously cited the tour as being "useful", "stimulating", "eye-opening", and "challenging", in view of the observed potential of vocational education when properly supported by the public and the lawmakers.

BUDGET

	FEDERAL	LOCAL		
		UND	CONFERENCE PARTICIPANTS	CONFERENCE SPEAKERS
DIRECT COSTS				
I. Personnel				
Conference Director, 1/8 time Summer		$240		
Research Investigator, 1/8 time Summer		190		
Secretary, 1/10 time 6 months		180		
Consultants, 30 days @ $50/day				$1,500
II. Employees' Benefits		40		
III. Travel				
Participants, 200 ea, 400 mi @ 8.5¢/mile			$ 6,800	
Participants, 200 ea, 5 days @ $12/day			12,000	300
Consultants, 20 days @ $12/day				240
IV. Supplies and Materials				
Dissemination materials: 200 packets @ $7.50 ea.	$ 1,500			
Office supplies		50		
V. Communications				
Postage and telephone		100		
VI. Services				
Duplicating		25		
Statistical and testing		100		
VII. Final report		50		
SUB TOTAL	1,500	975	18,800	2,040

PROJECT TOTAL: $ 23,315

The University of North Dakota will contribute all overhead expenses including facilities to house the conference.

REVISED BUDGET:

See Exhibit A, copy of letter requesting approval of a revised budget for Project 6-8505. Copy of the revised budget and of the letter of approval from the office of Dr. John E. Bean, ERDB, HEW, are on file in Dr. Bean's office.

TABLE 1

SURVEY OF VOCATIONAL COURSES EXTANT, ADDED OR PLANNED FOR REPRESENTATIVE SCHOOLS IN NORTH DAKOTA, 1966-67

General Area of Training	Existing Courses	Courses Added During Past Year	Courses Planned
Office Education (Bus. Ed., Dist. Ed., Office Ed., Sec. Prac., Filing, Bus. Machines)	14	4	6
Vocational Agriculture (Agri.-Business, Agri.-Mechanic)	7	19	1
Industrial Arts (Metals, Woodworking, Auto Mech., Welding, Leather, Power Mech., Drafting, Graphic Arts, Small Machines)	6	4	-
Home Economics (Food Service)	9	1	3
Data Processing	-	1	-
Commercial Art	-	-	2
Miscellaneous	-	-	3

PARTICIPATING PERSONNEL

DR. KENT G. ALM—
Associate Professor of Education & Director of Summer Session, University of North Dakota, Grand Forks

ORLIN D. BAKKEN—
Director of Placement, State School of Science, Wahpeton

MERRIL BERG—
Dean, Lake Region Junior College, Devils Lake

OSCAR BERGOS—
Director, Area Vocational School, Moorhead, Minnesota

DR. GEORGE S. COUNTS—
Distinguished Professor of Education, Southern Illinois University, Carbondale, Illinois

DR. H. EDWIN CRAMER—
Superintendent, Grand Forks Public Schools, Grand Forks

DR. M. L. CUSHMAN—
Dean, College of Education, University of North Dakota, Grand Forks

ERNEST L. DeALTON—
State Director of Agricultural Education, Fargo

DR. A. L. GRAY—
Professor of Psychology and Education, University of North Dakota, Grand Forks

VIRGIL GEHRING—
State Director of Office Education, Department of Public Instruction, Bismarck

DR. HAROLD C. GULBRANDSON—
Assistant Superintendent, Fargo Public Schools, Fargo

BEN G. GUSTAFSON—
Dean, General Extension Division, University of North Dakota, Grand Forks

OSWALD M. HAGER—
State Director of Distributive Education, Grand Forks

RICHARD K. KLEIN—
Assistant Superintendent In Charge of Instruction, Department of Public Instruction, Bismarck

MAJORE LOVERING—
State Director of Home Economics Education, Fargo

CLIFTON H. MATZ—
Assistant Research Professor of Education, University of North Dakota, Grand Forks

ROBERT P. MILLER—
Superintendent of Schools, Bismarck

DR. C. M. MORRIS—
Professor of Education, University of North Dakota, Grand Forks

G. H. MOWERS—
State Director of Trade and Industrial Education, Wahpeton

A. E. PAGLIARINI—
Coordinator of Adult Education, East Grand Forks Public Schools, East Grand Forks, Minnesota

M. F. PETERSON—
Superintendent of Public Instruction, Bismarck

ALVIN E. RUDISILL—
Associate Professor of Industrial Arts and Chairman of Department, University of North Dakota, Grand Forks

DR. GEORGE W. STARCHER—
President, University of North Dakota, Grand Forks

UNIVERSITY OF NORTH DAKOTA
General Extension Division
Grand Forks, North Dakota

ADMINISTRATION of VOCATIONAL EDUCATION

Fifteenth Annual Workshop for School Administrators

JULY 18-22, 1966

Lecture Bowl, University Center

Sponsored by
College of Education
General Extension Division
Graduate School

Directed and Supervised by
Dr. C. M. Morris
Dr. A. L. Gray

SCHEDULE

The following schedule will be in effect each day when not in conflict with special events. All meetings will be held in the Lecture Bowl, University Center, unless otherwise indicated. Refreshments will be available at either the Varsity Inn or the University Center Cafeteria.

Monday, July 18—

9:00 a.m. Registration

10:00 a.m. Welcome
Dr. George W. Starcher
President, University of North Dakota

10:15 a.m. Keynote Address—
"New Horizons in Vocational Education"
Dr. Thaine McCormick

11:15 a.m. Description of Workshop

11:45 a.m. Lunch

1:30 p.m. History of Vocational Education
Dr. Harold C. Gulbrandson

2:15 p.m. Coffee Break

2:30 p.m. Compatibility of Industrial Arts and Vocational Education
Mr. Alvin E. Rudisill

3:00 p.m. Presentation of Assignments

3:10 p.m. Library Study

8:00 p.m. Special Lecturer
Dr. George S. Counts
Distinguished Professor of Education
Southern Illinois University
Carbondale, Illinois

Tuesday, July 19—

9:00 a.m. Review of Federal Programs
Dr. Thaine McCormick

10:15 a.m. Coffee Break

10:30 a.m. The North Dakota Program in Adult Basic Education
Dean Ben G. Gustafson

11:00 a.m. Open Discussion

11:45 a.m. Lunch

1:30 p.m. Presentation of The State Vocational Programs
Minnesota:
Mr. Robert VanTries

2:15 p.m. South Dakota:
Mr. E. B. Oleson

3:00 p.m. Coffee Break

3:15 p.m. Open Discussion

4:00 p.m. Independent Study

6:15 p.m. Informal Dinner
Place to be announced.

Wednesday, July 20—

The North Dakota State Program in:

9:00 a.m. Vocational Agriculture
Mr. Ernest L. DeAlton

9:25 a.m. Distributive Education
Mr. Oswald M. Hager

9:50 a.m. Home Economics Education
Miss Majore Lovering

10:15 a.m. Coffee Break

10:30 a.m. Office Education
Mr. Virgil Gehring

10:55 a.m. Trade and Industrial Education
Mr. G. H. Mowers

11:20 a.m. Guidance Services
Mr. Clifton H. Matz

11:45 a.m. Lunch

1:30 p.m. North Dakota Programs in Vocational Education
Mr. Richard K. Klein

2:15 p.m. "The Vocational and Technical Institute"
Mr. Orlin D. Bakken

2:45 p.m. Coffee Break

3:00 p.m. "The Locally Supported Junior College"
Dean Merril Berg

3:30 p.m. "The Area Vocational School"
Mr. Oscar Bergos

4:00 p.m. Groups Convene for Program Development

Thursday, July 21—

9:00 a.m. Panel: "Implementation of Vocational Education and Its Problems"
1) Funding—Mr. Richard K. Klein
2) Staffing—Dr. H. Edwin Cramer
3) Facility—Mr. Clifton H. Matz
4) Content—Mr. A. E. Pagliarini

10:30 a.m. Coffee Break

10:45 a.m. Reaction Panel

11:45 a.m. Lunch

1:30 p.m. Group Study for Development of Programs (Coffee available during this period)

4:15 p.m. Library Study

5:30 p.m. Phi Delta Kappa Banquet
University Center

Friday, July 22—

9:00 a.m. Group Study (Coffee available during this period)

10:15 a.m. Presentation of Program Plans and Final Examination

11:15 a.m. Conference Review and Summary
Mr. Robert P. Miller

11:45 a.m. Adjournment

★

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The College of Education

RECORD

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Through publication of this periodical the staff of the College shares research findings, educational viewpoints, and educational practices in North Dakota with teachers and administrators of the State and Nation. Opinions expressed in articles are those of the authors and do not necessarily reflect the opinions of the editor or the publications committee.

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This is a double issue of the *Record* and includes major portions of the addresses delivered at the Fifteenth Annual Administrators Conference held on the campus of the University of North Dakota, July 18-22.

New Horizons in Vocational Education

Thaine D. McCormick

It is a privilege to have the opportunity to keynote a work shop for school administrators in the State of North Dakota.

Your conference this year has its theme "Vocational and Technical Education." It is my belief that this theme will be of considerable interest to the school administrators of the State, parti ularly at this time. This increase in interest in vocational education may be, in part, the result of a better understanding of what vocational education is—its objectives and benefits. It may be the result of changing concepts concerning the educational needs of youth and adults. For some, it may be a growing concern that the school's educational program has not, in the past, been as closely coordinated with the needs of the community and society as a whole as it could and should have been been. Regardless of what has motivated your increased interest in vocational and technical education, may I say I am glad you are willing to give a week of your valuable time, experience, and professional know-how to the expansion and re-direction of the vocational education program in the public schools of North Dakota. Your help is going to be needed if the challenges confronting vocational education today are to be met.

When asked if I would take this assignment, I offered the topic "New Horizons in Vocational Education," knowing only too well that if the youth of this State, who are in your schools today, plus the thousands yet unborn who in the years to come are to be educated in the public schools of North Dakota, are to really experience new opportunities to prepare for life in a changing world of work, it will not be because of any new legislation passed by the Federal Congress. It will not be because of increased Federal support for one educational program or another. It will be because of you, the administrators, in this State desire to create and open new horizons in vocational education for the youth and young adults in your communities. The Federal Congress can help by making increased funds available and perhaps through legislation establish some guidelines. The State legislature can become a strong partner, but you are the all important factor as the local leadership in education.

We are living, working, and educating our youth in a period of accelerated change. These changes are prevalent in our society in many forms and are stimulated by many forces which are taking place in North Dakota in your economy, your sciences, your technology, and your social structure.

Change is a disturbing thing to many of us, but if we resist change in a world that is changing all about us, we will defeat ourselves and we will defeat all chance of developing educational programs geared to the needs of society, both from the viewpoint of the needs of our economy and from the needs of the individuals.

T. D. McCormick is Regional Director, Vocational Technical Branch, U. S. Office of Education.

The program of vocational education, which was established under the provisions of the Smith-Hughes Act, was excellent for the years which followed the passage of the Act of 1917. But we are educating youth for another age, for a different world of work. It seems sometimes that in order to implement necessary changes in program, philosophy, and/or methodology we must, all too often, wait for the retirement or death of some individual. Unfortunately, the acceleration of the changes of our time may not permit such deliberate implementation of adjustments. Public opinion, along with our own personal compassion for those who share our profession, makes it difficult to discharge people in public service and public education. So the frustration is ours, the administrators. Along with the frustrations, however, we have the challenge of bringing about the innovations and new programs and philosophy which will provide our youth with new horizons in educational opportunity to prepare for useful and productive lives as workers competent economically, emotionally, physically, and socially. We must provide education which will enable all youth to be contributors to society. The challenge must be met in the interest of the well-being of the individuals who are dependent upon the educational leadership that you, and you only, the school administrator, can provide. The future of the way of life, our very existence as a leading nation, as an economy and as a culture, is dependent upon our success in meeting the challenge.

I mentioned earlier that the Federal Congress can help by providing financial assistance in the development of expensive programs of vocational education. Guidelines can be incorporated in legislation and the administration of that legislation passed by Congress. The State leigslature has a responsibility to enter into the partnership with the Federal and local levels of Government to provide support and guidelines to assure that programs will be developed which will meet the needs at the local, State, and Federal levels. I don't know what you as individuals think of Federal aid to education. I personally feel that nothing could be more democratic than to join hands and cooperatively attack the really serious problems of our time by bringing together the resources of all levels of government, including local, State and Federal, to bear on these problems. To be sure, education is among the most serious domestic problems, if not the most serious problem, confronting us today in your home town and mine, in your State as well as all others, and for the Nation as a whole. At any rate, Federal aid is, I think we will all admit, here to stay and it is within this Federal, State, and local relationship that we are going to be structuring and financing our schools in the future. The Federal Congress has, with the passage of the Vocational Education Act of 1963, moved to become a substantial partner in this joint local, State, and Federal effort to redirect and expand the vocational education program. State and local communities will need to take appropriate action to fulfill their responsibilities as partners in the acceptance of this challenge if they have not already done so.

The State of North Dakota took a major step at the State level when your Governor Guy organized the first Governor's Conference

on Vocational Education last February 9 and 10. Information was brought together and the thinking was begun at that conference which could hopefully result in additional steps being taken by the State Executive and Legislative branches of your Government to provide the State support and guidance necessary to implement the necessary expansion and redirection of your vocational education programs in North Dakota. If you have not studied the report of that conference, may I urge you to do so. You may want to urge your representatives to follow through on the work and thinking begun at that conference to assure that the State becomes a more active partner in the development of these new horizons.

I would like to point out to you some of the key aspects of the new Federal legislation and suggest to you that this legislation, which is designed to implement the recommendations of the President's Panel of Consultants on Vocational Education, provides the basic guidelines for the expanding role which vocational education can and must play in providing an educational system in this country truly oriented to the needs of our society. The Bill, it seems to me, resembles a bowl of rice. The more you boil it, the more you have. So it is with 88-210. The more you study this Bill, the more implications you will see in it and the greater challenge you will see for you and me. As I have studied this new legislation, it seems to contain six basic factors. These, I think, can serve as the key guideposts to the development of vocational and technical education programs in any State or community. Vocational programs developed using these guidelines can be assured of being compatible with the Federal effort to expand and redirect vocational education programs in this country. The Federal effort, as you know, received its direction from President Kennedy's Panel of Consultants, which was charged by the late President with the responsibility of reviewing and evaluating the current National vocation education programs and making recommendations for improving and redirecting the programs. The panel, as you know, was chaired by Benjamin C. Willis, Superintendent of Schools in Chicago, and had an administrative staff headed by Dr. J. Chester Swanson, University of California, previously Superintendent of Schools in Oklahoma City. Other members of the panel were important men from business, industry, labor, and Government. These were not vocational educators. Of the 25 members of the panel, only two were from the field of vocational education. Their recommendations have been generally accepted as sound and forward-looking and have served very specifically to provide the redirection which the development of vocational education has been taking in this country, at least from the Federal point of view.

These points seem to be the key factors as set forth in the Vocational Education Act of 1963.

1. Vocational programs, new and old, are to be geared to the labor market needs.
2. Vocational training may be developed and receive federal support for all occupations in the labor market other than the professions or those requiring the baccalaureate degree.

3. Vocational programs are contemplated for all ability levels.
4. Vocational programs may be developed in all kinds of institutions (junior colleges, area schools, secondary schools, four-year colleges and universities, public or private).
5. Evaluation is built into the law and is required at the Federal and State levels.
6. Research is emphasized and required as an integral part of the total vocational education program.

What are the implications to the States if they are to become effective partners in accepting the challenge? It is reasonable to assume that the organization patterns may need to be restructured if the vocational education program is to be extended vertically and horizontally sufficiently to do the job. This may require legislative action. Most States have passed some type of legislation providing for expansion and redirection of vocational education since the passage of the Federal Act in 1963. Iowa has a very fine bill passed a little over a year ago in Senate Bill 550. Kansas has Senate Bill 438, passed in 1963, the same year as the Federal legislation. Nebraska recently passed three bills dealing with vocational education. Legislation is being drafted in the Governor's office of Missouri to provide for better coordination and expansion of the vocational education program in that State. The administration of vocational education promises to be a major issue in the next gubernatorial campaign in Minnesota.

A combination of sound statesmanship and educational leadership is essential to the wise and systematic development of new vocational education programs in a State. My experience leads me to believe that you will not be able to depend on having sound statesmanship unless the educational leadership is in there and active. I think you can see that the responsibility of the school administrator is loud and clear. Such legislation should provide for the joint support at State and local levels to be combined with the Federal support to provide for the joint cooperative funding of the program. Provisions should be made for the cooperative effort of secondary and higher education systems of the State to assure a coordinated State-wide system of vocational and technical education for the entire State. Your goal should be to make appropriate training opportunities available within commuting distance of all youth commensurate with the needs of the individuals and the important segments of the State's economy. The program should guard against duplicating services and the development of programs in excess of need.

As you can see, there is much work to be done if North Dakota is to truly provide its youth and adults with new horizons in training opportunities to work and live in a changing world. I charge you, the school administrator, with the major responsibility of assisting and providing the leadership in getting the job done. We are, perhaps, already fifty years late in giving our greatest effort to the development of educational programs realistically geared to the needs of society. Perhaps the greatest contribution which I can make at this hour is to conclude this so-called keynote address to this conference and let you get at the work at hand. Thank you.

Vocational Technical Training in South Dakota

E. B. Oleson

The South Dakota State Department of Education, Vocational-Technical Division, is responsible for the promotion and development of Vocational-Technical Education in the cities and communities of the State.

There is much evidence that the State is grossly lagging and that only a weak effort has been exerted in the past toward bringing the opportunities for Vocational-Technical preparation, upgrading, and retraining to the people where they live and work. Leadership in Vocational Education is now challenging the State of South Dakota to keep in step with the needs of the present, and to plan ways and means for providing the most urgently needed Vocational-Technical Education for the future.

The Vocational Education Act of 1963 made funds available to the states to assist in the construction of Area Vocational Education Schools, in fact made it mandatory that a certain sizeable percentage of each state's allocation of funds be used for construction purposes. The stated purpose of the Act seems to dictate the philosophy of conveniently located Area Schools, "It is the purpose to authorize Federal grants to States to assist them to maintain, extend, and improve existing programs, and to develop new programs of Vocational Education . . . so that persons of all ages, in all communities of the State . . . will have ready access to vocational training or retraining . . ."

This is the first time in our history that federal matching funds have been made available to the States for construction purposes. This provision of the Act was probably the greatest contribution to the efforts of the States in providing high quality vocational education, geared to labor market realities, for Americans of all ages in all communities. Federal funds may be used to support the cost of construction, initial equipment, and for interest in the land on which the building is constructed.

In passage of S. D. House Bill 502 and 668, the 1965 Session, provision was made for establishment of area vocational schools. An appropriation of $200,000 was approved to be used as matching funds for the purchase of equipment for the Area Schools.

The State Board for Vocational-Technical Education has established six service areas within the State, with one proposal from each area to be approved as a minimum program. These area boundaries do not prohibit one district from contracting with any other district in the State for the provision of vocational training. The establishment of Area Vocational-Technical Schools will not prohibit the State Department from developing satellite programs in other communities where the need can be determined.

MR. OLESON is State Director of Vocational Education of South Dakota.

The following five points present a real challenge to educators, legislators, and to the people of South Dakota:

1. The future promises to become increasingly more demanding. The situation is already urgent and demands that more persons be trained in Vocational-Technical Education.
2. Training of women will become more and more important as a technical manpower source.
3. Facilities and curricula need to be designed and provided without dependence upon the already overburdened facilities and staff of the public schools; however, coordination and the full-time use of existing facilities must be the first objective.
4. Community and school district boundaries must be crossed and pushed aside as needed for this program to reach the people on a practical and economical basis.
5. The total society will benefit by preparing each individual to produce at his highest level of ability.

The State Board for Vocational Education assumed its responsibility of designating areas of the state to be served and setting standards for the allocation of funds to the local school districts. There is a danger, and I believe the State Board has recognized this, of dividing the state allocation too thinly to assure quality programs in Vocational Education. "An Act relating to Vocational Education," providing for establishment of Area Vocational Education Schools and the supervision, control, and financing thereof, (Chapter 63 of the 1965 session laws), makes provisions for the establishment of such schools. At the present time Sioux Falls, Rapid City, Watertown, and Mitchell have been designated as area schools. Construction is underway at Watertown; Mitchell and Rapid City have been funded and construction contracts will be let by December, 1966. Sioux Falls has completed new facilities at Lincoln High School; funds for additional construction at Sioux Falls will be available during the 1967 fiscal year. As defined in the terms of the Act, "Area Vocational Education School includes four categories of institutions;"

1. A specialized high school.
2. A department of a high school providing education in no less than five different occupational fields.
3. A technical or vocational school.
4. A department or division of a junior college or community college or university which provides vocational education in no less than five different occupational fields under the supervision of the State Board, leading to immediate employment but not leading to a baccalaureate degree.

The Act says it must, to be supported with Federal funds, be "used exclusively or principally to give vocational education to persons available for full-time study in preparing to enter the labor market." If it is type 3 or 4, it must admit as regular students both persons who have completed high school and persons who have dropped out of high school.

All area schools, no matter what their type, must be available to all residents of the State or of an area of the State designated by the State Board for Vocational Education.

Schools designated by the State Board as Area Schools must make provisions to meet the six purposes of the Act, which are:

(1) Vocational education for persons attending high school
(2) Vocational education for persons who have completed or left high school and who are available for full-time study in preparation for entering the labor market
(3) Vocational education for persons who have already entered the labor market and who need training or retraining to achieve stability or advancement in employment.
(4) Vocational education for persons who have academic, socio-economic, or other handicaps that prevent them from succeeding in the regular vocational education program
(5) Construction of area vocational education school facilities
(6) Ancillary services and activities to assure quality in all vocational education programs, such as teacher training and supervision, program evaluation, special demonstration and experimental programs, development of instructional materials, and State administration and leadership, including periodic evaluation of State and local vocational education programs and services in light of information regarding current and projected manpower needs and job opportunities.

Changing Trends

The vocational facilities in the State of South Dakota in the past years have been inadequate to meet the demands imposed upon all schools today to give the administration the flexibility of offering a total educational program to meet the needs of our students.

In most instances older buildings have proven inadequate in providing the flexibility in curriculum which more modern education and new industrial needs demand. Class sizes and schedules were rigidly set and, as new demands were made of the school system, the character of these older buildings often prevented making desirable changes.

Consequently, facilities should be planned that are sufficiently flexible to provide an environment favorable for learning and easily adaptable to program changes.

We must utilize all our resources to aid in development of a program that will meet the needs of vocational students, is related to the total school program, and will fulfill the ultimate goal of serving all people of all ages.

Tuition Charges

Chapter 37, 1965 Session Laws (Sec. 6) makes provisions for the local districts to contract for certain educational programs which are not feasible to implement in smaller schools.

(Section 6.)

Authority of school districts to provide training courses and facilities. For the purpose of providing and having available such trade and industrial education and training, any school district of this state is hereby authorized and empowered to establish in co-operation with the Division, a Vocational Department, classes and facilities for the education and training of the trade and industrial courses, as herein provided, under such term, conditions and arrangements as may be agreed upon. The school board of any school district in the State of South Dakota is hereby authorized and empowered to enter into any agreement or contract to provide for the training of those qualified who have school residence within such school district or to contract for any service in connection with such training which would be for the benefit of such contracting parties. Such contract or agreement shall not be subject to the regulation of the Tuition Law.

The tuition rate for high school students is the standard tuition rate of $3.17 per day. Tuition rates in all post-high programs at the present time have been set at $40.00 per month, and this tuition charge is the responsibility of the student.

Vocational funds provided by the State and Federal governments will be used to supplement the programs. Tuition rates will be lowered proportionately to the extent that these funds are provided.

Occupational Offerings

The establishment of the curriculum to be offered by each of the Local Educational Agencies has been a great concern of the State Board for Voctional Education. Certain programs will be offered in each of the schools based upon the demands of industry. It is not considered duplication until the labor market is in danger of being saturated. Employment upon the completion of training is the important factor.

Buildings are being designed so that maximum flexibility will exist. The use of occupational advisory committees is a must, both in determining curriculum and in planning facilities.

Summary

The greatest resource that any state has is its human resources. Even greater is a trained manpower pool which can fulfill the labor market needs of the local communities.

South Dakota has made provisions in the past and has looked into the future with the programs in higher education for the professional class of people, but has made, to the present, only a meager attempt to provide occupational training for the majority of its population.

A program of six area vocational-technical schools is the minimum program that it would take to meet the needs of our population.

South Dakota is an attractive State, and many of our young people would like to remain in the state if employment were available. One of the greatest determining factors in attracting industry to the state is an educational program that will provide the necessary basic skills in the vocational-technical areas. Educators are realizing more and more than the traditional college preparatory program

is not meeting the needs of the majority, and therefore are willing to make some of the necessary changes. However, under the present budgets and with the existing facilities, it is next to impossible to implement a strong vocational-technical program.

Minnesota's Area Vocational-Technical Schools

Robert Van Tries

The vocational-technical schools are Minnesota's newest public schools. They came to being in a traditional American pattern-triggered by local citizens recognizing a need, committing local resources and petitioning for the license and support of educational authority. Like other public schools, they operate according to standards of the State Board of Education. The responsibility for supervising area schools is placed with the State Vocational Section. The Director of Vocational Education and his assistants work very closely with business, industry and labor to design vocational-technical programs of instruction. Acting in the State Advisory Council, these public-spirited citizens help decide what skills and technology are needed and what the depth of instruction in them should be. Each area school has its own local advisory committee. Nineteen area schools now operating cover over 80 per cent of the population of the State of Minnesota. Three other schools are under construction.

The area school may serve students from any school district in the state. Any person 16 years of age or older, in or out of high school, may be considered for attendance at an area vocational-technical school. High school graduates under age 21, and who are Minnesota residents, may attend any area school tuition free. Qualified high school students, over 16 and residents of the area school district, may attend tuition free. Qualified adults over 21 may attend. They pay tuition, but need not be high school graduates. Older adults may attend evening classes.

The strength of the area vocational-technical school springs from imaginative organization geared to practical goals. The goal of the area school is to train students for specific payroll jobs . . . jobs that are here today and jobs that are coming tomorrow. Business and industry leaders, acting through the advisory committee, define these jobs and the skills required. The school designs a curriculum to provide these skills and related orientation.

More and more, today's economy demands education beyond high school if personal achievement is to be at all satisfactory. Vocational educators believe they must provide vocational-technical training for approximately 31 per cent of Minnesota's 18-year-olds. For them, and for the ever-mounting numbers of adults who must learn new occupations or extend special skills, the area vocational-technical school can be a golden key.

MR. VAN TRIES is Assistant Director of Vocational Education, State of Minnesota.

What do the area schools teach? They cover fields of enterprise important to Minnesota economy: agriculture, home economics, health, office, distributive, trade and industrial, and technical occupations.

There is no standard required program for all schools. Each works with its local advisory committee to set up specific courses. One can find such course titles as automotive mechanics, cosmetology, institutional cooking, medical laboratory assistant, carpentry, plastic technician, practical nurse, farm management and computer technology. For example, a student can graduate as a computer programmer or an FAA-approved aircraft mechanic or trained heavy equipment operator. In some occupations such as agriculture, home economics and electronics, students can begin the study of a specific occupation in high school and complete it with more advanced and intensive training in an area vocational-technical school.

The area schools offer no academic degrees. They train craftsmen and skilled technicians, employable by business and industry. People become employable in a labor market that is seeking their skills. Labor training costs of business and industry go down. The quality of goods and services goes up. The ability of a state or an area to attract new industry is greatly enhanced by facilities to train workers in new skills.

Many liberal arts and professional schools are now restricting enrollment even as the population explosion mounts. By 1970, Minnesota will have a projected 75,000 18-year-olds. Approximately 23,000 of these 18-year-olds will be unprepared for employment or not eligible for "college." For them, and for their society, area vocational-technical schools can be sight regained.

Consider how the technology and well-being of a society advances. The scientists discover. The engineers develop. The skilled craftsmen and knowledgeable technicians make the product of creative minds available to industry, business and people. The need for skills is great. In many electronics industries, for example, five technicians are needed to complete the design of one engineer. Without the skills and orientation taught in vocational-technical schools, desirable progress would cost more than today's competitive world can afford. And the adjustment to automation may take too long.

The area schools receive a proportionate share of state and federal aid. From 50 to 75 per cent of instructors' salaries is paid as state and federal aid. State Aid is paid the school for each resident student under age 21. The school receives full cost of tuition for non-resident students. All students over age 21 pay their own tuition.

Twelve per cent of all federal funds for vocational education received by the State of Minnesota has been allocated by the vocational section to institutions of higher education for teacher training. Nearly three-quarters of a million dollars has been distributed to the University of Minnesota, state colleges, and junior colleges over the past five-year period.

In 1947, three occupational programs were offered in one area vocational-technical school in Minnesota. In 1964, 17 area schools offered a total of 170 programs. Total enrollment for 1964-65 was

55,585 students. The schools also serve unemployed adults. In 1965, 1,800 adults attended area schools to learn or upgrade skills to make themselves employable.

What happens to the graduates of area vocational-technical schools? Do they stay in the community and contribute to its growth, or do they take their new skills and technical knowledge elsewhere? A follow-up study in 1962 of graduates of the St. Paul Area Technical Vocational School turned up some answers. For example, 96 per cent of former students were still working in Minnesota, 80 per cent of them in the trade or technical area they had studied, 69 per cent of them for their original employer. The St. Paul community noted also that 81 per cent of its area school graduates surveyed were still working in St. Paul. Clearly, the state, the community and the economy are getting a good return on the investment in vocational-technical education through the area schools.

Many area vocational-technical schools serve their communities all day and far into the night because evening is the only time many employed craftsmen and technicians can go to school. But go to school they must, or their specialty passes them by. Evening classes are designed to help the student keep his job, advance in it and qualify for a better one. Some local industries pay the tuition for employees who attend vocational evening classes. Others make attendance in certain courses a pre-requisite for raises or promotions. Evening class instructors are all specialists and skilled teachers. Many of them are employed in local business and industry. The area school thus utilizes resources of skill and knowledge sharpened by practical experience.

The area vocational-technical schools have a long history of cooperation with the voluntary apprenticeship program of Minnesota. Under the indenture agreement, apprentices are required to attend not less than 144 hours per year for related and supplementary instruction. For some schools, the Joint Apprenticeship Committee is also the advisory committee for preparatory and evening extension programs. Schools report to the Joint Committee on the progress of each indentured apprentice and may assist the Committee on a consultant basis. By law, the State Supervisor of Trade and Industrial Education is a member of the State Apprenticeship Council. In many cases the local vocational educator is an ex-officio member of the local Joint Apprenticeship Committee.

The 1945 Area Vocational-Technical Law was the enabling act which made possible the several schools in widespread locations around the state. It also put Minnesota in a position to take advantage of federal legislation passed since then.

The Vocational-Technical Institute

Orlin D. Bakken

It is a pleasure to have the privilege of discussing the Vocational Technical Institute with this particular group. Before we get into the make up of a vocational technical school, I would like to discuss some broad aspects of vocational education.

As you know, vocational education is under the direction of the Board for Vocational Education. This board is made up of the same members who comprise the State Board of Public School Education. As the board for vocational education, the State Board of Public School Education has supervision over vocational agriculture, business and distributive education, homemaking, trade and industry, and vocational rehabilitation.

As you are aware, the objective of vocational education is to instruct individuals in skills and necessary related subjects so that they can meet the demands of specific jobs. This training involves the development of skills, ability, attitudes, understandings, working habits, and proper appreciations that result in a satisfying and useful life of work and citizenship. Vocational education is basically terminal in nature, which means that once a course is completed the student is ready for the world of work.

Vocational education is designed to serve members of five different groups. They are: (1) Young people enrolled in high schools or vocational schools, (2) Young people who have completed academic high school, and need additional education and special instruction for employment, (3) Boys and girls who have dropped out of school, (4) Adults who want to increase their skills and knowledge, (5) Unemployed adults who must be retrained because of automation and other technological changes.

Vocational education is designed to equip persons for all types of employment including the field of homemaking.

Once again, vocational education may be defined in a broad sense as the process which prepares the individual to earn a living. This means it can extend from the simplest forms of training for elementary jobs to higher education in preparation for positions in the various professions. When the term is applied to publicly supported schools, the definition refers to occupational education and training not leading to a baccalaureate degree. The well-defined areas of vocational education are designated by branches including agricultural education, business and office education, distributive education, home economics education, technical education, trade and industrial education, and vocational guidance.

With this brief introduction to vocational education, I wish to spend the remaining minutes discussing the vocational technical institute. Considered as a whole, the North Dakota State School of Science is regarded as a community college. The term community, in this case, refers to the state of North Dakota because we have

MR. BAKKEN is Director of Placement, North Dakota State School of Science.

been designated as a centralized school for trade and industrial training.

We find that in engineering and scientific fields today there is an expressed need for some three to five technicians for every engineer or scientist. Industry is still hiring the mechanic off the street because of the scarcity of technical graduates. The good technical institute graduate should have little trouble in getting a job. Automation should not scare the technician because he is the man who will be maintaining the equipment.

In terms of total life earnings, the usual technician will lag behind the engineer or scientist, but this lag may not be evident for ten years or more. In the first place, while the engineer or scientist continues his schooling for two to five years longer at a cost of $1500 or more per year, the technician will be earning from six to eight thousand dollars a year at the time the college man is just starting out a lower figure. Although the engineer will take several years to catch up, eventually the total will swing in favor of the man who is of greatest value to his company.

No matter in what field the technician is trained, he can look forward to a good future. As the world becomes more and more technical, the technician will continue to grow in importance and stature.

As we discuss the vocational-technical school we should define the term "technician." A technician is one who is skilled in any of a large group of occupations at many levels or proficiency and with a wide variety of training requirements. Their work is technical in nature, but narrower in scope than that of the engineer and has a practical rather than a theoretical orientation.

The duties of the technician make training a necessity. He must be skilled in the use of tools and equipment needed for the technical job. He must perform many tasks formerly assigned to professional personnel. He must understand professional terms, know how to read and work from drawings and specifications prepared by the engineer. He must be able to do detailed planning as suggested by the engineer. Because of the highly skilled technical nature of the technician's occupation, and becaues often times he is required to supervise production workers, he needs a working knowledge of science, mathematics, report writing, contracts, specifications, human relations, economics, and public speaking. It is with these thoughts in mind that we develop our various technical training curriculums at the North Dakota State School of Science. We feel that we are in the business of training students for successful employment.

The North Dakota State School of Science is an educational institution whose main goal is to train top grade technicians in a minimum amount of time. Our students are college-able, but not college-oriented. We concentrate on this objective, and it is for this reason that we find that our alumni have been very successful in their particular areas of study. A technical institute is designed for the student who has as much mental ability as the average college student, but who has a desire to work with his hands well. In addition to this, he usually wants to get into industry or an allied field (for

either personal or financial reasons), at an earlier age than the college graduate.

A technical institute is not a trade or vocational school; it is not a place to send a student interested primarily in learning manual skills. In general, specialization is kept to a minimum; instead, broad general areas of knowledge are explored. For example, in the field of electronics we do not train a radar specialist, a computer specialist, a specialist in telemetery, a radio or TV specialist, or any one of a hundred other narrow fields of specialization; in our two-year course we provide a very broad background in the field of electronics. This provides the necessary foundation on which to build. Education is a never-ending process, and industry is expected to take over at this point. This is the way industry wants it. Industry takes our graduates and places them in their own training programs.

A technical institute is not the same as a school of engineering or medicine. The matriculation process is similar to that of a college. The students have numerous classes under many instructors. He must take courses which are slanted toward application in the technical field. It is for this reason that many technical institute graduates can write a better technical report than the average college graduate. In nearly all curricula he must take mathematics and physics. In some cases this goes as far as calculus. All of these subjects are again slanted toward application and tend to be less abstract and more down to earth than what we might consider in the normal college curriculum.

In general, the student's time is evenly balanced between theory and practice in the area of his major courses. There are, however, courses that are based on the college formula of two hours preparation for one hour of class. More demonstrations by various means of visual aids are to be found in the classrooms at technical institutes than would take place in most four year colleges. Here the emphasis is placed on laboratory work to provide practical application of the theoretical material presented.

The student at a technical institute is different. First, you will find that there are practically no loafers. We do have a few of this type, but they are the ones who find themselves way behind and who leave early in the school year. The playboy doesn't have very much time to play, because he finds himself in a classroom situation seven periods a day. This means that his homework must be done at home in the evening. The average student is one who probably has limited funds, and comes quite a distance to get his education. He is paying for it, and he wants to get it, and this just doesn't leave much time for playing around. The typical student is in the age range from 19 to 22 years. They are practically all high school graduates. The only age limit in effect is that a student must be at least 17 years old. He has an eight hour day, 40 hour week, of classes. This is an arrrangement that carries over into the types of jobs that they are training for.

If you should stop a student and ask why he chose to attend the State School of Science, he would probably say because an alumni recommended it and he's got a good job, or because he thinks it

might train him for a good job. Another reason might be that it is close and not as expensive as other schools, or simply because it's a good school. Most students stay with us 18 months, although the students in the business school have been successful in finding good positions after six to nine months of training. The girls are outnumbered about five to one on campus.

During the 1964-65 year of school there was an average of three and two-tenths job opportunities for each student. The figures for this year are not available, but I estimate that there will be approximately five job opportunities for each student.

I mentioned earlier that practically all of our students are high school graduates. Students who have not completed high school, but meet the minimum age of 17, are given an opportunity to apply for enrollment at the State School of Science.

One of our major reasons for success is the flexibility that is available. Most high school graduates have no idea of their capabilities, and often they come here to enroll in a course for which they don't have the ability. After the first three, to six weeks, it is possible for a student to switch to some other area that is of interest to him and for which he is more qualified.

Of course offerings are quite varied. The business school offers from six to eighteen month training courses. The choice is up to the students as to how specialized the training will be. The business school stresses four main areas which are shorthand and typing, bookkeeping and accounting, combination stenography and bookkeeping, and general clerical and receptionist work.

The technical division offers courses in architectural drafting and estimating, civil engineering, electricity, electronics, electronics drafting, industrial drafting and design, refrigeration and air conditioning. The trade school offers courses in auto body repair, auto mechanics, printing, machine shop welding, radio-TV appliance servicing, sheet metal, heating, diesel maintenance, general mechanics, plumbing, and practical nursing.

The junior college offers the basic courses of English, German, mathematics, geography, music, political science, psychology, music, social science, engineering, accounting, secretarial training, journalism, printing, data processing, and dental hygienist training.

The responsibility of helping students find satisfactory positions rests with my office. I find that employers return to campus year after year after year seeking the same type of individuals whom they had employed in prior years. Quite often we receive calls from someone who says, "My competitor across the street has a student who graduated from the State School of Science, and I would like to hire one exactly like this particular individual.

Gentlemen, it has been a pleasure being here, and I am sure that you have had a good conference. I am very pleased to have been able to make a small contribution. Thank you.

The History and Development of Vocational Education

Harold C. Gulbrandson

Vocational education is as old as man himself. Early man practiced a vocation when he hunted in the forest, caught fish in the streams, or dug in the ground for roots, since he was performing tasks essential to living, and a vocation is what a person does to gain a living. Survival required that he teach his sons and daughters to perform the tasks necessary to provide food, clothing, and shelter; this teaching was the earliest vocational education.[1]

From earliest times, vocational education consisted of father teaching son and mother teaching daughter. These were relatively unorganized forms of vocational education that served mankind well for centuries. The history of all vocational education before the Industrial Revolution was largely a history of apprenticeship. The distinct divisions of vocational education did not appear until the nineteenth century.

Apprenticeship in the ancient world was first identifiable in the history of ancient Babylon. Mays has stated:

> The outstanding statement upon which nearly all students of history of apprenticeship base their conclusions regarding the earliest customs and law is regarding the adoption of sons by artisans in the Code of Hammurabi (B.C. 2285-1142). This Code, in the midst of several laws regarding adoption, states that "If an artisan has taken a son to bring up and has caused him to learn his handicraft, no one has any claim. If he has not caused him to learn his handicraft, that nursling shall return to his father's house."[2]

Guilds were first mentioned in history as early as the ninth century, and there was evidence that they began on the continent in France, Germany, and the Scandinavian countries. However, it was in England that the craft guilds attained their highest level of organization and influence. Guilds required a high type of workmanship and were concerned that the strictest standards of honesty were observed in dealing with customers.[3] This insistence on high standards of craftsmanship and a concern for their public image was largely responsible for the effectiveness of the apprenticeship programs. The guilds saw in this procedure a means of continuing a desirable and profitable practice and a way of commerce.

The guilds declined steadily in power until about the middle of the eighteenth century. As trade expanded and the demand for

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[1] Benjamin C. Willis, Ed., *Education for a Changing World of Work*, O.E. 80021, U. S. Government Printing Office, 1963, p. 18.

[2] Arthur B. Mays, *Determining Factors in the Evolution of the Industrial Arts in America*, Bruce Publishing Company, Milwaukee, p. 16.

[3] *Ibid.*, p. 61.

goods grew greater, it became increasingly difficult for the guilds to continue their close control over the labor supply. A new economic system was on the horizon.

The beginning of the Industrial Revolution in England came at about the same time that the economic theory of "laissez-faire" was dominant. Mill owners began to exploit women and children, sealing the doom of apprenticeship. In noting the decline and demise of apprenticeship in England, one can summarize the lasting effects that this era had on vocational education:

> Undoubtedly much of the great progress made in the field of the industrial arts can be traced to the influence of the guilds to the systematic apprenticeship they set up, to the ideals of quality in workmanship, pride in craftsmanship, and to the respect for work well done that they engendered among those that came under their influence.[4]

Even though there were no guilds or craft organizations in the American Colonies, these early settlers brought the institution of apprenticeship with them to the New World. It was a fundamental educational institution in Colonial America. Apprenticeship in the Colonies was of two kinds, voluntary and compulsory. The voluntary apprentice entered into an indenture with a craftsman of his own accord, usually because he desired to learn that specific trade. The governing bodies of the Colonies passed laws that allowed them to apprentice to craftsmen the children of the poor. These arrangements involving involuntary apprenticeship were closely governed by law, and those in authority were charged with the responsibility of seeing that the indenture agreement was enforced. Thus, in effect, the English Poor Law of 1601 was modified and adopted by the Colonies.[5]

The Latin grammar school of Colonial times offered an opportunity for classical education for a select few. Apprenticeship made it possible for a boy or girl without financial means to secure an education. In addition to teaching the apprentice a trade, the master was charged with the responsibility of providing a certain amount of basic education. This usually took the form of basic skills of reading, writing, and arithmetic. Because many of the masters were themselves illiterate, or were not able to meet the responsibility for other reasons, these children were often sent to evening schools taught by the local schoolmaster. These schools usually were in session for the winter months only, but they did provide a basic education for the apprentice.

From the founding of the Colonies until about 1820, apprenticeship in America served three distinct and useful purposes:

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[4]Ferdinand T. Struck. *Vocational Education for a Changing World*, John Wiley and Sons, N. Y. 1945, p. 8.

[5]David W. Roberts, *An Outline of the Economic History of England*, Longsmans, Green. London, 1934, pp. 53-54.

1. It provided a means of common elementary education.
2. It supplied the needed skilled craftsmen.
3. It served as a type of poor relief.[6]

In many different ways, and with varying degrees of success, man tried to solve the problem of insuring a steady, adequate supply of well-trained craftsmen. Perhaps the apprenticeship system of the English guilds and the system used in early Colonial days more nearly approached achieving these goals than any system since that time.

In the nineteenth century there emerged the four distinct divisions of vocational education that were to be the subject of federal legislation during the twentieth century. These were all below college grade and fell into four divisions: (1) commercial or business education, (2) agriculture education, (3) home economics or homemaking education, and (4) industrial education. Each of these four can be traced through its own characteristic growth, though the broad outline of development seemed to be quite similar for all four.[7]

The keeping of accounts relating to property and business transactions is probably as old as civilization itself. Apparently some sort of deliberate instruction in the keeping of accounts, and the calculating of profit and loss, had been given throughout history. Both the academy and the early high school in this country offered courses in bookkeeping. But it was the business college, which developed during the early part of the nineteenth century, that brought about the broad development of the business courses of instruction. The business college spread rapidly after it first appeared in about 1805. This growth paralleled the growth of industry and commerce in the United States. Interest in business education was slow to develop in the public schools before 1890. After that time commercial courses developed rapidly in the secondary schools.[8]

The techniques of farming have been handed down from father to son since time immemorial. This was a very informal type of apprenticeship. Farmers have been individualistic and conservative. Because of this, they have been slow to accept instruction relative to their occupation. The growth and development of agriculture before 1900 was slow, and it was plagued by many discouragements.

Leaders in agriculture in the late eighteenth and early nineteenth centuries organized agricultural societies to encourage more efficient farming. The first of these societies was organized in Philadelphia in 1875 and had among its membership George Washington, Noah Webster, and Benjamin Franklin. Such societies played an important part in stimulating interest in improved farming methods, and were in part responsible for the later interest in agricultural schools. Between 1825 and 1850 private agriculture schools appeared in New York, Massachusetts, and Connecticut.

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[6]Mays, *op. cit.*, p. 58.

[7]Struck, *op. cit.*, pp. 16-17.

[8]Roberts, *op. cit.*, p. 433.

The first successful agricultural high school was established at the University of Minnesota in 1888. Almost from the start this school was a success as a means of providing a vocational education for farm youth. In the years that followed, agricultural high schools were established in other states. While these and other sporadic attempts were made to provide development in agriculture in the secondary school prior to 1917, the actual development of vocational preparation in agriculture had its inception with the passage of the Smith-Hughes Act in 1917.[9]

Practically the same social and economic causes which brought about the introduction of other vocational courses into the secondary schools operated to make the teaching of home economics a school responsibility. After thousands of years of informal apprenticeship in the home, and a few years of experimental efforts by private schools to teach the science and art of homemaking, this field of vocational education has become a thoroughly established phase of American public school education.

Despite various attempts to introduce home economics in the public schools, it was not until the last quarter of the nineteenth century that any major changes began to take place. During that period of time immigration from Europe reached startling proportions. Although Northern Europe had formerly been the primary source of immigration, the stream now originated in Eastern and Southern Europe. These people were not acquainted with the domestic manners and customs of the more firmly rooted American. Also, the new immigrants tended to settle in the cities. This resulted in increased tenement housing which did not encourage either work or play within the home. In addition, industry was bent upon attracting the labor of women and children.

These trends alarmed many; consequently, they called upon the school to introduce courses which would conserve the vital character of the home. In 1899 a small group of interested persons met for a conference at Lake Placid, New York, to discuss household economics. Out of this, and subsequent conferences, came valuable efforts in the promotion of home economics in the public schools.

The subjects first to receive consideration were cooking, sewing, and household management. Eventually it was realized that as important as the physical and economic conditions of family living might be, a satisfying home life was derived from the impact of personality upon personality. Accordingly, by the 1930's emphasis was placed upon the psychological factors essential for health and happy family living."[10]

In the United States, the early efforts to provide industrial education invariably resulted in some type of private school or evening trade school. It seemed clear that the continuance of industrial growth was contingent upon the solving of the problem of trade education.

[9]Alfred C. True, *A History of Agriculture Education in the United States, 1785-1925* (Washington: U. S. Gov't. Printing Office, 1929), p. 8.
[10]Olive A. Hall, *Home Economic Careers and Homemaking* (New York: John Wiley and Sons, Inc., 1958), pp. 2-28.

One rather interesting attempt to solve this problem was the Manual Labor Movement which began about 1820. This was an outgrowth of the Fellenburg movement in Switzerland. Under this plan students would study part of the day in school and engage in productive work for the rest of the time. The school, as the sponsoring agency, provided instruction in job training, a very radical departure and concept in 1820. Manual instruction, as a part of the curriculum, was not generally accepted. While there are similar plans in effect in our nation today, it is apparent that the people were not ready to accept this concept."[11]

Although the Industrial Revolution began in England in about 1760, its effects were not felt in America until much later. This was due to the English laws which prohibited the export of machinery or their designs. The first factory machines in America were designed from memory by immigrants. Although the actual exporting of machinery could be controlled by the English, the factory system began to expand with the incoming immigrant skilled craftsmen who settled here. The development of industry came about slowly, and it was not until after the Civil War that the nation was a part of the Industrial Revolution.

During the nineteenth century, there was an increased demand for labor at the same time that the apprenticeship program was rapidly declining. As a result, many different approaches to the problem began to appear. The Manual Training Movement was one of these. This movement was considered to be an outgrowth of the philosophies of Comenius, John Locke, Rosseau, and Pestalozzi.

President Lincoln signed the Morrill Act in 1862. The act provided grants of land to endow, support, and maintain state colleges devoted to the agricultural and mechanic arts, to "promote the liberal and practical education of the industrial classes in pursuits and professions of life."

The Morrill Act was not passed on the crest of a wave of public opinion or of pressure from powerful interest groups. On the contrary, most farmers were ignorant of its meaning and even of its passage, no significant industrial support is recorded, educators had almost no voice in its passage, and Lincoln had no recorded opinions of it. Historians agree that neither Senator Justin Morrill, who sponsored the bill, nor the influential Senator Benjamin Wade, who guided it through Congress, had any clear idea of its educational implication.

Despite the unpromising beginnings of the Morrill Act, it had many long-range, salutary effects. It induced a major redirection in the pattern of American education, with at least five implications of consequence for vocational and technical education:

1. A liberal and practical education was prescribed. The two were not to be placed in separate camps. The classical studies were integrated into curricula that were plainly vocational, and both were to be accommodated without any sense of inferiority.

[11]Mays, *op. cit.*, pp. 16-17.

2. With the expanded financial and philosophical basis of the state university systems the doors of higher education were opened to a far wider public, removing forever the idea of a single education for a select few.
3. The act gave important status to the mechanic arts and agriculture, and it greatly changed the college-level teaching of these courses and of the other sciences. Science was to be taught, not just for its own sake, but as an instrument for molding the societal environment.
4. The new form of education broke through the suspicions and fears of education of farmers and businessmen. The resistance to agricultural and mechanic education in the colleges, noted earlier, gradually was overcome by the extension programs, experimental farms, and the success of graduates over the first two decades of the operation of the new colleges. This acceptance of vocationalism in the colleges was to have much significance in the later movement to extend vocationalism into the public schools.
5. The role of the agricultural colleges in improving agriculture in this country was so dramatic and so widely recognized that this new form of education came to be accepted as vital to the national welfare and as a spur to economic growth. The social efficiency of vocational education was proved to a "show me" people.

Why did vocationalism reach into the colleges at a relatively early date, yet take so long to be introduced into the high schools? One reason is that the colleges, from their earliest days through the latter part of the nineteenth century, enrolled a teenage student body—students at a time of life when they were most susceptible to learning the middle-level skills demanded by society at the time. Considering the age of the students, the course content, and the level of instruction, the early land-grant colleges performed a function similar to that of a good comprehensive high school today.

The high school of the period was not necessarily a four year institution; many high school graduates were youngsters from the grammar schools who had been pushed through one or two years of the feeder schools that most colleges found it necessary to maintain. But, whether the high school was one year or four years, public or private, its purpose was college preparatory.

The 1870's saw, in the high school, attendance and graduation increases that barely kept pace with the over-all growth in population. After 1880, census figures show a doubling of both total enrollment and graduates for every decade that followed up through 1930. College enrollments, on the other hand, grew much more slowly. While nearly 60 per cent of the 1870 high school graduates went on to earn college degrees, the figure fell to 25 per cent just after 1900; to below 20 per cent during World War I, and to about 15 per cent by 1940. In short, over this span of years the high school became the terminal point in the education of most American youth.

This growth and changing role of the high school had a profound effect on American higher education, especially on the land-grant

colleges. As the number of high school graduates increased and as the colleges became better established, they were able to demand a four-year school course for admission; and with a better prepared and more mature student body, they were able to upgrade their work substantially.

The colleges had blazed the vocational trail, but as they advanced the level of their work into the highly skilled and professional areas, they left a vacuum in the field of middle-level vocational preparation. In retrospect, it was logical that this vacuum would be filled by the emerging high school. But no such ready transition was to take place. Politics, pedagogy, and the familiar pressures of tradition and status stood in the way. Over the span of the next three decades, however, the pressure to fill this middle-level vacuum was built up until finally society demanded that it be filled, and by the schools. The traditional thinking in the high school was broken through only by means of the same extraordinary (for that time) remedy that had been used on the colleges—Federal legislation.

The manual training movement was the opening wedge for entry of vocational training into the secondary school curriculum. The line between the teaching of industrial arts and the teaching of industrial skills is a thin one, and during the 1890's a new breed of educators, less tied to the culturist tradition, and pointing to the work of the lang-grant colleges, was willing to cross that line. During the two decades after 1890 the number of schools offering recognizably vocational programs rose from almost none to the hundreds.

During the decades 1890-1910 vocationalism was one of the hottest issues in education, and the failure of educators during that period to agree on the place of vocationalism in the schools was to leave a heavy mark on the kind of vocational education which, inevitably, was put in the school. It was a problem to which John Dewey directed some of his most penetrating thoughts. Sensing a developing dualism in the educational system, Dewey strongly urged the integration of vocational education into the general school program.

But Dewey's voice was to no avail. The traditionalists refused to bend on such matters as the necessity of an academic curriculum for all students, and requirements for teacher certification; many simply cringed at the sound of hammers and saws in the school. The vocationalists, in turn, were uncompromising in their demands for a new approach to the education of high school youth; increasingly they aligned themselves with early advocates of progressive education on such matters as curriculum diversity and classroom methodology.

Management and labor also divided sharply over vocational education. To management, vocational training in the schools was not only a valuable source of skilled manpower, but also a way toward freeing itself from the growing union control of apprenticeship. Conversely, labor saw such training in the schools as an attempt by management to break unions, to use young scabs from the schools to undermine the few hard-won gains it had made.

Much of the rural educational effort during the 1880's was directed to expanding extension and demonstration programs; the passage of

the Hatch Act (1887) and Second Morrill Act (1890) resulted. But it was not until the first decade of the twentieth century that a rural demand for vocational education reached a climax. The teaching of agriculture in a public secondary school seems to have started in Elyria, Ohio, in 1902. Progress thereafter was slow but steady, accompanied by many speeches and editorials demanding "useful" and "practical" education on the high school level.

In 1906 two forward-looking educators, Charles R. Richards of Teachers College, Columbia University, and James P. Haney, director of the New York City public school manual training program, broke the static situation by organizing the National Society for the Promation of Industrial Education. Its purpose was plainly political—the unification of the forces tending toward vocational education throughout the country.

Almost the entire educational community was convinced that education was a state responsibility, and that in any event Federal aid would mean Federal control. But the National Society was not bound by such fears. By 1912 the society's mission had become single and clear; a large-scale program of Federal assistance must be brought about. Its efforts were unremitting and its success remarkable.

By the latter part of 1913 congressional support was substantial. Vocational education bills had been introduced in every Congress since 1906, but many of the bills, including the Page-Wilson bill then before Congress, were not entirely satisfactory to the National Society.

In January 1914 the Smith-Lever Act was passed, the Page-Wilson bill was defeated, and the Congress authorized, and the President signed, a bill creating a Commission on National Aid to Vocational Education. The report of the commission is the Magna Carta of vocational education in the United States.

The Commission report began by outlining the need for a national program of support for vocational education. By inadequate provision for vocational education the country was despoiling the soil, wasting labor in pools of underemployed and unemployed, hindering the growth of wage-earning power, restricting the quality and quantity of product output, raising prices with wasteful production techniques, holding down economic growth, and jeopardizing the nation's position in the world trade market. These arguments were designed to attract the attention of the industrialist and union man, farmer and consumer, the conservationist, and the nationalist.

Specifically, the Commission recommended Federal-state assistance to a cooperative program of vocational education on the secondary school level. Teacher salary and training costs were to be federally supported, but the cost of facilities and maintenance was to be borne by the states. A minimum of 50 per cent of the school time was to be given to shop work on a useful or productive basis. Agricultural, industrial, trade, and home economics offerings were to be supported. Of equal significance was the recommendation that an independent Federal board be set up to administer the program in cooperation with boards to be created or designated by the states.

The Smith-Hughes Act was signed into law on February 23, 1916. This act provided for an annual grant distributed to agriculture training, trade and industrial and home economics education and teacher training. Although several amendments and extensions have been made to the Smith-Hughes Act, none of these has resulted in any fundamental change in the purpose of the Act.

During the next three decades Congressional grants for vocational education were small. Acts which dealt with the problem either directly or indirectly included: the George-Deen Act of 1929, the George-Ellzey Act of 1934, the George-Deen Act of 1936, the F.E.R.A., the C.W.A., and the C.C.C., all of 1933; the N.Y.A. of 1935, the Vocational Training for War Production Workers Act and the Rural War Production Training Programs of 1942, Public Law 16 of 1944, Public Law 346 of 1944, and the George-Barden Act of 1946. These completed thirty years of legislation in, or related to, vocational education.

With the National Defense Education Act of 1958, the Area Redevelopment Act of 1961, the Manpower Training Act of 1962, and finally, the Vocational Education Act of 1963, the Federal government moved firmly into the public education picture. Of singular import is the 1963 legislation which represented a break with past patterns of allocating money to the states for vocational education. This law was designed to extend present programs and encourage the development of new ones. In addition to extending the Smith-Hughes Act, the George-Barden Act, and the National Defense Education Act of 1958, the law provided for work-study programs designed to enable youth to continue vocational education. Funds were also provided for teacher education and the construction of area vocational schools. *The Economic Opportunity Act of 1964* provided a program designed to help youth stay in school and start toward constructive careers by providing work experience.

Programs under this act must be initiated and sponsored by a state or local governmental unit or private non-profit service and welfare organization. The Federal Government will pay 90 per cent of all costs of the program at the outset and local sponsoring agencies are required to provide the balance.

The Area Vocational School in Minnesota

Oscar R. Bergos

As a Minnesota vocational educator, I feel I have a very worthwhile story to tell concerning the Minnesota Vocational School System. In order that I can be sure we all have the same concept of what an area vocational school is, I should like to describe what we have in Minnesota.

The school I am talking about is one established with the objective of providing vocational-technical education to the youth of a certain

MR. BERGOS is Director of the Moorhead Vocational Area Technical Institute.

area of the state. It is a school operated by a local district, but administered as an entity separate from the high school. It is a school which offers vocational-technical courses primarily of a post-high school nature.

The Minnesota schools are built in geographic population centers. We feel that lack of finances is one of the main reasons some youth do not avail themselves of vocational education. We all know that the biggest single cost factor in going "away" to college is the room and board item. For this reason we have established schools in all corners of the state. None of the schools would be considered "big," but rather of the size *necessary* to serve the youth in the *area*. We do not build dormitories at the schools because the students are expected to commute from their homes. Although there is no verification for the statistic, our state office tells us that when the schools presently under construction are opened over 90 percent of Minnesota's youth will be within commuting distance of an area vocational-technical school. We consider 30 miles an acceptable commuting distance.

The Minnesota system is basically tuition-free. We do not charge tuition to Minnesota residents under the age of 21 years. Others pay a tuition which ranges from $30.00 to $40.00 per month. We have had some mild criticism of our "tuition-free" arrangement. However, once our reasons have been explained to the critic he usually agrees that we are justified in giving students this benefit.

In planning the Minnesota system, a definite effort has been made to prevent duplication of courses between adjacent schools. In some instances duplication does exist, but only in fields where the shortage of trained people is so acute that the duplication will not saturate the employment market. Our curriculums are geared primarily to the employment future in the area in which the school is located, but in addition state and national needs are considered. With our nation's population becoming more and more mobile, we find the national and state needs playing more important roles in curriculum development at the local level.

When a new school is established, a survey of the employment market is made in order to validate the curriculum to be offered. I'd like to refer to the survey we completed at Moorhead a year ago. We sent out approximately 1,000 survey forms to businesses in northwestern Minnesota and northeastern North Dakota. We also surveyed the vocational aspirations of the high school Juniors and Seniors. From these surveys our curriculum was developed. We know that when the students graduate there will be employment for them.

The Minnesota vocational system is approved for veterans' training and vocational rehabilitation training. We participate in the Manpower Development and Training Act and in the Work-Study program. Because of these benefits, as well as free tuition and the commuting factor, we feel there is very seldom a valid excuse for a young person not getting a vocational education in Minnesota if he really desires it.

Students are assigned to various departments within a school on the basis of interest and aptitude. The Minnesota State Employment Service administers the General Aptitude Test Battery to determine the aptitudes of the applicant. Every effort is made to place the student in the department of his choice. However, in some cases where a student does not possess the necessary ability an alternate department is suggested to him.

Since the establishment of the Minnesota Area Vocational-Technical School system in 1945, growth has constantly taken place. The system has now grown to the point where there are 20 operating schools. Four additional schools are due to open their doors this fall (of which Moorhead is one). Several additional schools are in the planning stages at the present time.

Each year these schools are feeling the pinch of increased enrollments. We know the Minnesota system has to grow even more in future years in order to keep up with the demand for vocational-technical education. I am pleased to report that the youth and adults in Minnesota are becoming awake to the "real" picture in "post-high school" education. I'm sure that most of you have had an opportunity to observe the findings as outlined in the Summary Report of the Panel of Consultants on Vocational Education. This report was requested by the President of the United States several years ago. The report, entitled "Education for a Changing World of Work," pointed out some sobering statistics. Of great interest to the vocational educator is the fact that of every ten youngsters now in grade school, only two will finish four years of college. This is predicted even though college enrollments will double during the 1960's. The big question, then, that looms before us is: How will the other eight youngsters fare in the changing world of work? Since eight of ten will not finish college, it is very important that a strong vocational system be established in every state. It is essential that the citizens of every state be made aware of this educational prediction so that steps can be taken to serve these youth.

We feel that the citizens of Minnesota *have* taken steps to serve these youth. We feel we have a system of area vocational schools which is second to none in this nation. Evidently educators from other states, too, feel we have a good system because we have numerous visitors each year wishing to learn more about it.

Industry now recognizes the Minnesota system as being an asset to the state. I have before me a brochure published last winter by the Great Northern Railway entitled "How to Reduce Start-up Costs for Your New or Relocated Plant." In this publication they refer to "Instant Manpower" and to the fact that the "Minnesota schools teach skills to fit the company's need." In several instances firms have moved to a certain area of Minnesota because (among other considerations) the local vocational school was providing (or would be willing to provide) the training needed by people going to work for the company. The students in the Minnesota system are proud to be vocational students. They do not feel that vocational education is in any way "inferior" to, or less than, the courses available at a college or university. They realize that the vocational school has a

different objective—one that is more in line with their occupational goals.

The old concept of the vocational school being an institution to handle only the troublemaker, the delinquent, the truant, the low IQ, or the dropout is now past. This is not to say that many of these people won't be accepted for vocational-technical training, but rather that they will constitute only a per cent of the total school enrollment as would be true in any other educational facility such as a high school or college. The ridiculous idea that some people have had that the "poor student" makes a "good craftsman" is just plain unacceptable to industry. Industry demands highly-skilled craftsmen, and the Minnesota system must turn out these people.

Vocational education needs more publicity. I am gratified to see articles appearing in national magazines praising the merits of the vocational schools in our nation. The April, 1965, issue of *Changing Times* magazine had a very good article entitled "No, You Don't Have to Go to College." This article pointed out that in many cases some of the young people would be better off not going to college. The question is raised as to whether some other kind of education would not possibly better suit the person's abilities and interests.

While it is true that education beyond high school is becoming essential, this does not mean that the only avenue to career success is in the pursuit of the baccalaureate degree. Education should not be measured in terms of degrees and graduate programs offered, but, instead it is more appropriate to measure the educational offering in terms of the available programs and courses that suit the needs and interests of the individuals of the state.

Some people feel that all education should be of a liberal arts nature. They fail to provide the answers, however, as to where the craftsmen of tomorrow are to be hatched. We have these critics in Minnesota as I'm sure does every state. They tell us that we are not doing enough for the "cultural development" of the individual student. We are quick to point out that this is not the main objective of the vocational school. We feel our goal is to teach people how to make a *living* in society. We do offer courses of a "general" nature, but they are always related to the trade in which the individual is being trained. We feel that the type of students we get have had more than they want of the "things that are good for them" . . . and now want practical trades training with which they can earn a good salary and lead a decent life.

These same critics say we are training for obsolescence . . . and maybe we are. Who is to say with any certainty which jobs will still exist in, say 20 years? What we do know, however, is that the vocational graduate will be workng next year, and the next, and the next. He will not be drawing welfare benefits or unemployment compensation (unless he doesn't want to work). He *expects* to have his trade change considerably during the years. He *expects* to return to school for upgrading purposes. Things will change in the next 20 years for all of us and we will all need retraining.

These same critics say automation is eliminating jobs. Some are being eliminated, to be sure, but this does not mean that the highly skilled craftsman will be eliminated in the foreseeable future. This fact was substantiated by a news release from a special presidential commission which made a one-year study of the impact of technology, automation and economic progress on our nation. The commission predicted that by 1975, 18,300,000 more jobs will exist in our nation that existed in 1964. That's a 30 percent increase in total employment. In general, opportunities will expand most for the professional and technical worker. The biggest shrinkage will come for the common labor class.

I was not asked here to discuss the North Dakota vocational education situation. However, I have some definite ideas on the subject and, being a UND graduate I feel I have some right to do this. First, let me say that the one vocational-technical school you have at Wahpeton is one of the very best in the nation. However, I question whether one school, located at the eastern border of the state, can accomplish the vocational task in North Dakota. I am sure there are many young people in Fargo and Grand Forks (to name only two cities) who would love to attend your vocational school but find it impossible to do so. You do not have a vocational school which serves the needs of the youth in your state regardless of the individual's family financial situation. Your young people must pay room and board costs to attend your school and, in addition, are charged tuition. Would you not agree with me that many young people from average or low income families in Grand Forks, Fargo, Grafton, Bismarck, and Dickinson are not being served with vocational education? I have talked to numerous young people in the Fargo area who plan to attend the Moorhead Vocational-Technical school because they can not afford to attend at Wahpeton. I would like very much to see a vocational school built in Fargo, even though the Moorhead school would probably not grow as large because of it. We will not be able to handle the demand from both cities, and, of course, must charge the North Dakota applicants non-resident tuition.

I understand that at the present time a new electronics building, costing approximately $500,000, is being built at the Wahpeton school. I do not question that the building is needed, especially in view of the fact that it will be used to train technicians for the dynamic electronics industry. What I do question, is whether or not the state of North Dakota wouldn't be better off spending this amount of money at some other location in the state. Many of our Minnesota vocational schools bonded themselves for no more than $500,000 in constructing their *total* vocational building.

I have tried to give you an insight into the Minnesota system. I would like to again point out that the objective of the vocational-technical school is to provide vocational-technical education to any youth who desires to acquire it. In Minnesota we feel our system is accomplishing this objective. We feel our student body breaks down into three distinct groups. These are:

1. Those who would like to go to college, and have the ability to handle it, but lack the necessary finances.

2. Those who just do not want to go to college. They "want" to be tradesmen.
3. Those who do not possess the necessary ability to do successful college work.

To deny vocational education to a student in any (or all) of the above groups would be a shame. I feel it seldom happens in the state of Minnesota. I would encourage all North Dakotans to think about whether or not it is happening in North Dakota. If it is, I encourage you to look further into the possibilities of developing an area vocational-technical school system.

Guidance Services in Vocational Education

Clifton Matz

Guidance services in vocational education are, as in general education, capable of becoming the keystone for meaningful occupational programs.

When providing counseling services for vocational education, the counselor should not serve as a salesman or recruiter for vocational courses or programs. Each student should have the opportunity to develop and exercise his special abilities in a way that will provide him maximum personal satisfaction that will serve society. It is an objective of counseling to aid the individual in defining and achieving his vocational goals up to reasonable limits of his capacities.

It is a fallacy to believe that vocational adjustment comes automatically with the high school diploma. The real problem is to guide the student in the recognition and realization of the need for long-term concern for himself, recognizing the fact that he alone holds the key to his future. Vocational counseling helps the student to inventory his assets and liabilities and to translate that inventory into a positive program of accomplishment.

The counselor, through his knowledge and perception of human behavior, develops a comparative understanding. That is, the counselor plays an important role in the development of the student's self-understanding and growth. He should not make decisions for the student, but should sharpen the student's sense of personal reality. The better the individual understands himself, the more he is likely to accept reality and responsibility for the development of his potential. To best do this, the counselor should concern himself with the positive qualities of the student. Often, if attention is called to negative factors and an attempt is made to correct them by a direct approach, these factors become engraved on the mind of the counselee and may act as a deterrent rather than as a motivation. Confidence must be developed in oneself before one can become an effective individual. The Greek philosopher, Heraclitus, put it amusingly, "Man is on earth as in an egg. Now, one cannot go on forever being a good egg; he must either hatch or rot."

In all cases, it is most important for the counselor to be realistic. Under no condition should he build false hopes within the counselee

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or make promises that cannot be fulfilled. The counselor should be concerned primarily with what is done and what can be done.

As I am substituting for Glenn Dolan, Director of Guidance Services, State Department of Public Instruction, Bismarck, I would like to state some of the remarks which he made at a presentation last February.

> The development of guidance programs in the schools has been fostered by Federal legislation. From the Smith-Hughes Act, George-Dean Act, and George-Barden Act to the National Defense Education Act in 1958, the guidance movement has been growing. Still, many schools do not have counseling services. Today we have 42 separate units under the Title V-A Program and approximately 90 counselors in North Dakota high schools, but many of these are on only a part-time counseling assignment.
>
> Conant, in his sympathetic, but realistic, evaluation of the need for guidance services in the schools, recommends a ratio of one counselor to every 250 to 300 students. We have a real shortage of counselors in North Dakota today, and in many cases the additional non-counseling duties assigned to the counselor take away the real effectiveness of the services he can and should provide.
>
> Mathewson, in an extended statement on guidance policy, has advanced the belief that the education system, in the long run, should have primary responsibility for guidance services, since "it provides greatest assurance that the preventive phases of guidance and the developmental aspects—the most important of all—will receive the major attention and primary handling for all of the population in the formative years."
>
> Whether one agrees with the thesis that the schools have the primary role to play, the historical fact is that many schools have initiated, developed, and are now operating guidance programs which begin in the elementary grades. While these programs vary in quality and quantity, and in the nature of services performed from school to school, they tend to provide one or more of the following services:
>
> 1. Vocational information
> 2. Personal data collection
> 3. Counseling
> 4. Placement
> 5. Follow-up research

If the counselor is to be the agent of change, he must be highly skilled. Individual counseling with students is the primary and growing function of guidance work.

When an individual finds something exciting, he comes out of his "shell" and becomes a new person. By getting the individual excited about himself, he may become more enthusiastic about his future, and before long he may start developing that confidence that comes from participation in the activities and processes that concern his deciding on his educational and vocational career.

The Implementation of Vocational Education and It's Problems

Clifton Matz

Vocational education has been defined and discussed. The area vocational school programs of Minnesota and South Dakota have been reviewed. The function of the five areas of vocational education have been outlined.

The next step is the discussion of the implementation of vocational programs or courses. The first step in the implementation of vocational programs is to determine course or program content.

Content

For the purpose of review, the objective of vocational education is "to fit individuals for gainful employment." The content is intended to prepare the student for initial employment, and the curriculum should include that which will build towards proficiency in a chosen occupation. The courses should include only information which will make a direct contribution, and should be taught with regard to specific relationships and applications to gainful employment.

The steps in the development of curriculum for vocational education include:

A. The cooperative development of a plan in which local and state educational authorities outline objectives and procedures to be followed.

B. The development of a statement of the philosophy of vocational education for adoption by the local school board.

C. Ascertainment of community needs. Educational specifications should be based on interviews with employers and organizations to determine present and future community and area needs. The area occupational study should also be supplemented by employment data from adjacent labor market regions.

D. Analysis of student body composition and expected enrollment.

E. Establishment of admission requirements determining the number and kinds of students to be served.

F. Determination of curriculum and courses to be offered.

G. Time schedule for development and implementation of program.

H. The determining of the type and extent of adult offerings.

A school considering programs in vocational education should, if it is not already doing so, first develop and offer a program in industrial arts education. Through industrial arts education, students are able to develop skills, knowledge and attitudes which will better assist them in the selection of a vocation.

Facilities

Once the content of the desired vocational education programs has been determined, the next step is the planning of facilities necessary to house the programs.

To provide the facilities necessary to insure the achievement of the objectives of the program, the amount of money to be budgeted should be based on the cost of desirable space and equipment. Too often, programs are carried on in temporary quarters which end up as permanent. Such quarters might not provide the atmosphere necessary for the development of desirable habits and attitudes.

It is often said that "make do" quarters provoke or challenge the ingenuity of the staff or teacher. There is no question that top drawer teachers and staff "do" in spite of the facilities. Staff members would show an even greater degree of ingenuity if they had good facilities. The staff would then have more time to prepare for the students.

The steps in the development of facilities are:[1]

A. Administrative considerations
   1. Type of program to be provided—Study of "multi-purpose" classrooms and laboratories
   2. Expected enrollment in proposed curriculum
   3. Time requirements for vocational offerings
   4. Safety provisions and considerations

B. General Facilities required in the building
   5. Instructional space requirements which are based on:
      a. The student-teacher ratio maximum
      b. Space requirements estimated on basis of equipment, furniture, and instructional activities
      c. Program objective and methods of instruction
      d. Special lighting, power, ventilation
   6. Auxiliary space requirements as determined by:
      e. Sizes and kinds of groups to be accommodated
      f. Types of activities to be conducted
      g. Special physical requirements

C. Selection of equipment:
   7. The student-teacher ratio maximum
   8. Kinds of equipment: manufacture, size and capacity
   9. Cost and maintenance problems
   10. Extent of training

The cost of facilities and equipment is such that it is not feasible for schools to provide educational programs unless an optimum number of students are enrolled. For this reason, those schools needing or desiring to provide vocational programs should give consideration to the development of central facilities in cooperation with other county or area schools.

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[1] *Developing Educational Specifications for Vocational and Practical Arts Facilities*, American Vocational Association, Washington 5, D.C.

Problems of Staffing for Vocational Education

H. Edwin Cramer

The problems connected with the development and maintenance of an effective program of vocational education are so varied and so different from the problems of general education that they require the services of a person with special abilities, training and experience. The effectiveness of the program of vocational education is contingent upon the director of vocational education and upon how well he performs his duties. His duties are many, and some of them are listed as follows:

I. Program Development

The vocational education director should work with business, industry and all available agencies or technical programs in any or all of the occupational fields or combination of fields and with all groups of people to be served under the provisions of this plan and idea.

He should be a member of the local vocational education committee and report to them his findings. He should determine through surveys of employment, interviews of employers, labor leaders, tax payers and others, the forms of vocational education which may be justifiably introduced into a school program. The directors should present a prospective program with supporting evidence to the superintendent of schools for consideration by the school board.

II. Work Study Supervision

The vocational educational director should develop a supplementary plan in implementing and supervising a work-study program in relationship to the diversified education, home economics, trade and industry, and any of the areas where work-study programs seem feasible to help promote the total vocational education idea.

III. Personnel

The vocational education director should be responsible for all the vocational programs and, therefore, necessarily be responsible for the personnel associated wtih the vocational program, especially those reimbursed by federal and state vocational funds.

He should assist the personnel director of the school district in recruiting teachers, coordinators or supervisors as may be deemed necessary, and recommend to the principal the appointment of all personnel directly associated with vocational education.

He should also evaluate the pre-vocational portion of the program in terms of articulating the vocational and pre-vocational subjects.

DR. CRAMER is Superintendent of the Grand Forks Public Schools.

IV. Business Relations

The vocational education director should promote good public relations through published monographs and bulletins. He should promote the vocational education program through speeches and use of all the known devices of the news media for disseminating information about vocational education. He should work in close liaison with an advisory committee for purpose of promoting vocational education matters.

V. New Plans and Programs

The vocational education director should prepare plans for new programs, provide for the expansion of existing programs, help plan new buildings and facilities, purchase equipment, plan and execute a budget, and make changes in vocational education that will be needed as the program develops during its early years.

VI. Coordination with Guidance

The vocational education director should prepare brochures which the secondary school principals and high school counselors can use to promote vocational education among high school students, and create a wholesome interest in, and a good attitude toward, vocational education programs.

He should serve in an advisory capacity to the vocational guidance program through the regular guidance department of the school program.

VII. In-Service Education

The vocational education director should provide a program of pre-service and in-service teacher training which will assist teachers in preparing a course of study, and plan lessons which will lead to the desired goals and outcomes.

He should stimulate the professional growth of the instructors through staff conferences, memberships in professional organizations and attendance at their meetings, reading of professional literature, and the visitation of other schools.

VIII. Coordination with the Business Office

The vocational education director should recommend and requisition the purchase of equipment, supplies, instructional materials and the needed items for the effective operation of the vocational program.

IX. Administration

The vocational education director should prepare vocational reports, financial reports, statistical information and descriptive narratives required by the superintendent and the local board of education.

X. Public Relations

The vocational education director should keep the community informed of the work of the vocational department by:

open houses

contributions to the news media
performing community services through the work of the department
addressing meetings
participating in the community life, and encouraging members of the staff to do the same.

XI. Evaluation

The vocational education director should periodically evaluate the effectiveness of the vocational education program by studying the job placement record, by conducting a follow-up study of the students on the job and by consulting with industries who are employing the students of graduates of the vocational educational department of the school system.

The vocational director is the administrator, the supervisor of instruction, the liaison officer with outside agencies, and his functions are really as follows:

1. To supervise the work of each instructor in his division with a view to raising the instructional efficiency to the maximum.
2. To follow the progress of the pupils in his division and to direct transfers if necessary for those not interested in, or unable to profit by, vocational education.
3. To coordinate the instruction of the shop and the related subjects and general education so that individual efforts will function collectively to produce the well educated pupils we desire.
4. To supervise efficient and economical use of educational supplies.
5. To assist the intsructor to keep courses of instruction functional in view of the changing production and processes.
6. To enlist and maintain the interest and cooperation of employers, labor leaders, and other appropriate persons in the work of the school.
7. To act as a field agent of the school placement service in the placement of the school graduate and those who leave before graduation.
8. To assist employers to find suitable employees for vacancies.
9. To aid in the establishment of cooperative part time programs and to supervise the pupils while they are under employment. To insure that the service to the employers is efficient. To guard exploitation of employers to sign them to positions that are suitable to their interest and abilities and to make adjustments when necessary to insure harmonious relations with the employers and possibly the labor unions.
10. To determine the need for evening extension classes for the improvement of the vocational program.

The director should have full administrative responsibility, under the superintendent of schools, for all phases of the program of training for employment, the program of vocational guidance, the selection of pupils for vocational courses, contacts with employers, placement and follow-up work. Vocational home economic programs are a new subject in the vocational program as we know them and since they are now in the vocational program as far as wage earning skills are concerned, they too, need to be included within the province of the director of vocational education.

Steak or Corn Meal — Which Will You Order?

Shubel D. Owen

Agriculture is a broad category of which farming or production agriculture is but one phase. Agriculture includes the production, processing and distribution of food, fiber and selected building materials. Today approximately forty per cent of all employed persons in the United States are working within the broad category of agriculture. Within the state of North Dakota the per cent is much higher.

There are over 500 distinct occupations in the category of agriculture. Frequently these are grouped into the eight major areas of employment, namely,

Farming or ranching
Agricultural research
Agricultural industry
Agricultural business
Agricultural education
Agricultural communications
Agricultural conservation, and
Agricultural services.

Studies show that students who do not study agriculture in high school are not likely to "take up" the study of agriculture when they continue their education beyond high school. At the present time the need for competent persons with vocational, technical, and professional education in agriculture is twice as great as the supply. There are two jobs in agriculture waiting for the person who is prepared to accept them.

Farming or ranching is the keystone which supports all other phases of the industry of agriculture and the preparation of persons to take over the operations of "our farms" when the present oper-

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ators retire is highly important. Modern farming requires highly educated operators and managers. Modern farming is demanding an increasing number of trained persons to provide the services needed by today's farmers. Services which were formerly performed on the farm are today carried out by trained operators living off the farm. As the number of farmers has decreased, the number of persons engaged in providing services for farms has increased.

Some of the changes which are occurring at an accelerated pace and which tend to cloud up the picture of agriculture as it relates to vocational and technical education in agriculture are:

The application of science and mechanized equipment to agriculture has transformed farming and ranching and given it a new look. We have fewer persons employed on farms, and an increased number of persons providing services to farms while living in town.

Operational skills and managerial ability are essential requisites for successful farming.

The efficiency of output and productivity of farm units continues to improve. In 1830 three and one-half man-hours of labor were needed to produce a bushel of wheat; today about two and one-half minutes.

Increased urbanization has resulted in many of the traditional agricultural activities being moved off of the farm.

More persons are employed in processing and distributing agricultural products than in their production. Today the farmer recevies approximately 37 per cent of the consumer's food dollar.

The rapid rate of technological change in agricultural occupations makes it necessary to continue occupational education throughout the worker's career. To illustrate, over ninety per cent of the chemicals used in farming today were unknown five years ago.

World events are playing an increasingly important role in agriculture. Our nation is a member of an international community.

The purposes of vocational and technical education in agriculture are to:

Contribute to the educational objectives of American public education.

Contribute to the controlling purpose of vocational education, which is to "fit persons for gainful employment," and

Provide training and retraining for youths and adults which is realistic in light of actual or anticipated opportunities for employment.

Major objectives for programs of vocational and technical education in agriculture as stated in Bulletin 1966, No. 4 of the U. S. Office of Education (Objectives for Vocational and Technical Education in Agriculture) are:

To develop agricultural competencies needed by individuals engaged in or preparing to engage in production agriculture,
To develop agricultural competencies needed by individuals engaged in or preparing to engage in agricultural occupations other than farming,

To develop an understanding of, and appreciation for, career opportunities in agriculture and the preparation needed to enter and progress in agricultural occupations,

To develop the ability to secure satisfactory placement and to advance in an agricultural occupation through a program of continuing education,

To develop those abilities in human relations which are essential in agricultural occupations, and

To develop the abilities needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities.

Those who should enroll in vocational and technical education in agriculture are:

High school students who
plan to farm or ranch,
plan to work in the industry of agriculture, and
plan to study agriculture in college to prepare for a professional career in agriculture.

Post high school students who
are making a start in farming and seeking to become satisfactorily established in farming or ranching (The Young Farmer Program—This is the true farmer training program) and
are interested in improving the efficiency in production and management (The Adult Farmer Program).

Education in vocational and technical agriculture is first and foremost an educational program. It is pupil-centered. Its chief aim is to bring about desirable changes in those enrolled—changes in their attitudes, knowledge, understandings and ability to act. It is a part of the total program of the public schools and is under the direct supervision of the local school authorities.

Daniel Webster said, "Unstable is the future of a country which has lost its taste for agriculture. If there is one lesson in history which is unmistakable it is that the national strength lies very near the soil."

Our national security will be endangered if we neglect the education of our people in agriculture. With the rapid growth of our population, the importance of agriculture will increase. To meet the food demands of our population in 1975 it is anticipated that we will need to produce enough food to feed an additional 700 million persons. This is 25 per cent more food than we are producing today. It has taken man all his history on earth to build a population of 3.3 billion persons. It is predicted that it will take only 33 more years for the present population to double. In Hungary, the working man

spends over 50 per cent of his income for food; we in the United States spend about 18 per cent.

Yes, there is a need for vocational and technical education in agriculture—a future that is closely associated with the kind, abundance, and cost of the food we will find on our tables tomorrow. For every pound of meat we eat, we utilize about five pounds of grain. In many parts of the world meat, milk, and the other animal products which we so much enjoy and take for granted are luxury items available to but a few.

Which will you order for your table, steak or corn-meal? Our actions in relation to providing programs of vocational and technical education in agriculture will have much to do with the answer.

APPENDIX III

EVALUATION - Conference for the Administration of
Industrial Education
University of North Dakota
July 18 - 22, 1966

1. Check the following vocational programs you presently offer in your school?

Check	Year First Offered	Course	Check	Year First Offered	Course
___	____	Agriculture	___	____	Home Economics
___	____	Business and Office Education	___	____	Trade & Industry
___	____	Distributive Education	___	____	(other specify)

2. Were any of these programs offered for the first time during the 1965-66 school year? If so list those programs.

_____ _____
_____ _____

3. Will any of these programs be offered for the first time during the 1966-67 school year? If so list those programs.

_____ _____
_____ _____

4. For what specific jobs does your vocational program prepare students.

_____ _____
_____ _____
_____ _____
_____ _____

5. List the specific courses offered in each vocational program.

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

6. List those vocational or vocational related courses (if any) which were first offered during the 1965-66 school year.

_____ _____
_____ _____

7. Were any of the courses listed in question no. 5 revised during the 1965-66 school year? If so, name which were.

_____ _____
_____ _____

8. List the vocational or vocational related courses (if any) that will be offered for the first time during the 1965-66 school year.

_____ _____

_____ _____

9. What vocational courses or programs should be added to the curriculum to prepare students for job opportunities in areas served by your school district?

_____ _____

_____ _____

10. List the major equipment in the schools vocational laboratories.

Name	Condition			Age				
	Good	Fair	Poor	1 year	3 years	5 years	10 years	other

11. What has been done to ascertain:

a. Community employee needs and trends. _____

_____

_____

b. Students vocational interests and training needs. _____

_____

_____

12. Are students assigned vocational courses or programs by:

_____ interest, _____ to fill classes, _____ because no other programs are available.

July 7, 1966

Dr. John E. Bean, Specialist
Educational Resources Development Branch
Department of Health, Education, and Welfare
Office of Education
Washington D. C. 20202

Dear Dr. Bean:

Enclosed is a copy of a budget revision for Project Number 6-8505,"A Conference for the Administration of Vocational Education."

This budget was developed, you will recall, as the result of a conversation in Washington last April between you and Dr. Edward Krahmer, Principal Researcher with the North Dakota R.C.U. At that time Dr. Krahmer explained that the University had proceeded to procure materials which were budgeted in Project 6-8505. Since there was some uncertainty relative to the status of the Project and time was becoming a factor, it seemed fitting to take these initial steps in seeing that necessary instructional materials were available in time for the conference.

Now that the Project has been funded and the University's monies have been used for materials, I am requesting permission to use a portion of the federal funds ($1,000.000) for program evaluation and other follow-up activities.

The enclosed budget indicates that specific uses to which these funds would be put although these reflect only an estimate of needs. I should very much appreciate your reactions to both the budget and our request for its modification.

Let me thank you for the attention you have given our Project, and the assistance provided in making it a better one.

Sincerely,

Clyde M. Morris
Professor of Education
Department of Education

CMM/db

Enclosure